

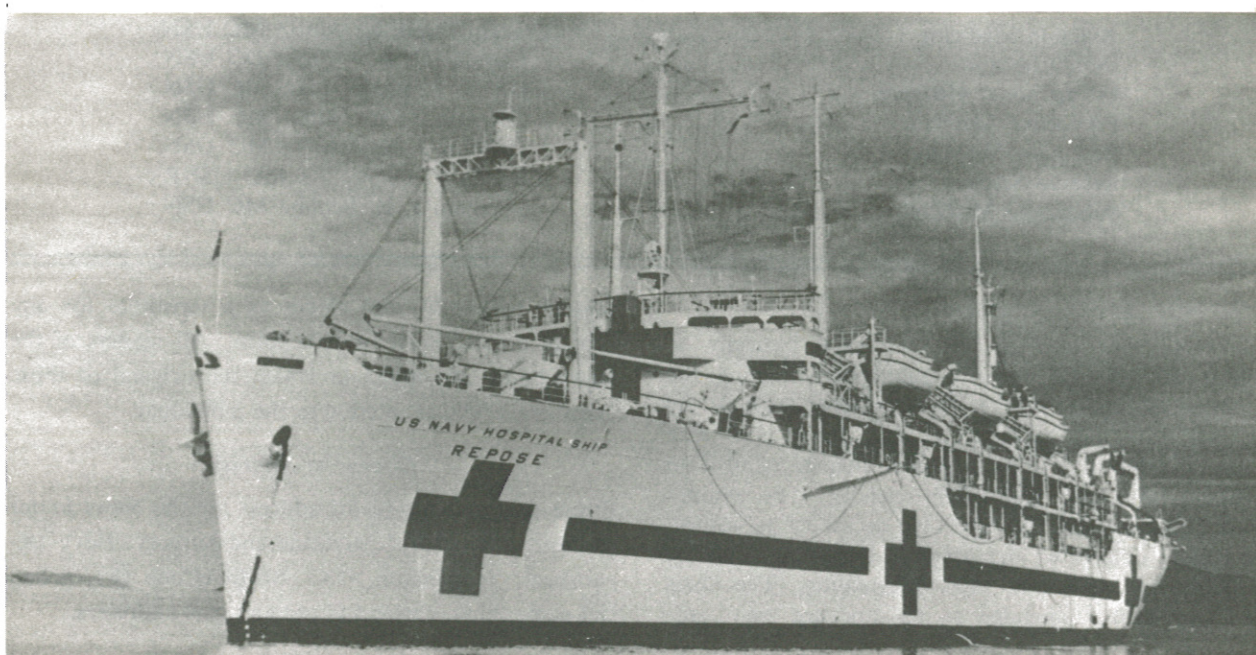
UNITED STATES NAVY

Medical News Letter

Vol. 47

Friday, 11 February 1966

No. 3



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United States Navy
MEDICAL NEWS LETTER

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Policy

The U.S. Navy Medical News Letter is basically an official Medical Department publication inviting the attention of officers of the Medical Department of the Regular Navy and Naval Reserve to timely up-to-date items of official and professional interest relative to medicine, dentistry, and allied sciences. The amount of information used is only that necessary to inform adequately officers of the Medical Department of the existence and source of such information. The items used are neither intended to be, nor are they, sus-

ceptible to use by any officer as a substitute for any item or article, in its original form. All readers of the News Letter are urged to obtain the original of those items of particular interest to the individual.

Change of Address

Please forward changes of address for the News Letter to Editor: Bureau of Medicine and Surgery, Navy Department, Washington, D.C. 20390 (Code 18), giving full name, rank, corps, and old and new addresses.

FRONT COVER: U.S.S. REPOSE (AH-16). This hospital ship was originally commissioned on 26 May 1945, but saw only limited duty in the remaining weeks of World War II. After VJ Day she served as an evacuation vessel, and her crew helped rehabilitate and repatriate allied prisoners of war from various points in China and Japan. During the next two years she served in the Pacific area, spending considerable time at Tsingtao, China and Yokosuka, Japan. From 3 September 1949 until 26 August 1950 the REPOSE was operated by a civilian crew of the Military Sea Transportation Service. With her Navy crew again embarked she assumed duty as a station general hospital at Pusan, Korea 20 September 1950, and carried United Nations casualties to Yokohama and Yokosuka. Officially recommissioned on 28 October, she served as station hospital at Inchon and evacuated the wounded to Japan, later being stationed at Pusan again in a similar capacity. Following the Korean action the REPOSE was inactivated, but after being refitted with the most modern equipment for hospital ships she was recommissioned on 16 October 1965, to give medical support to Navy and Marine Corps forces fighting in Vietnam. The vessel is 520 feet long, has a 72-foot beam, a speed of 18 knots, and a displacement of 15,000 tons. She can handle over 755 patients with the efficiency of a metropolitan hospital.

The issuance of this publication approved by the Secretary of the Navy on 4 May 1964.

U.S. NAVY MEDICAL NEWS LETTER VOL. 47 NO. 3

SPECIAL ARTICLE

U. S. S. REPOSE (AH-16)

COMMISSIONING CEREMONY, SAN FRANCISCO, CALIFORNIA

Address by Vice Admiral Robert B. Brown MC USN on 16 October 1965.

It was with great personal as well as professional pride and gratification that I received Secretary Nitze's invitation to speak at the commissioning of the U.S.S. REPOSE. It has been my privilege to serve on three of our fine hospital ships—two in World War II, and one, this very one, in Korea. Mr. Nitze's invitation reached me in Hawaii as I was returning from a visit to our medical facilities in Vietnam and the western Pacific, more firmly convinced than ever of the great contributions a hospital ship will make to the medical support of our important military operations in southeast Asia.

The concept of a floating hospital is not a recent one; in fact, hospital ships can be traced back to 1741 when the English fleet invaded Cartagena. Commodore Preble gave the American Navy its first hospital ship during the war with Tripoli. When the fleet left Sicily in 1803, the U.S.S. INTREPID was left behind to serve as a hospital. The fleet returned 2 months later, and the INTREPID resumed her place as a ship of the line. True, this first hospital ship was created by designation rather than planning, but a hospital ship nonetheless.

Regulations for hospital ships were published in 1818, but it was not until the Civil War that these vessels again appeared with the fleet. Perhaps the most famous of this era is the RED ROVER, captured from the Confederates and converted to a Navy hospital ship. Commodore Foote described her as "the most complete thing of the kind that ever floated . . . the icebox holds over 300 tons. She has bathrooms, laundry, elevator for the sick from the lower to the upper deck, amputating room, nine different water closets, gauze blinds to the windows to keep the cinders and smoke from annoying the sick, two separate kitchens for sick and well, a regular corps of nurses, and two water closets for every deck."

There followed a succession of hospital ships, converted from liners, each an improvement over its predecessor. When the U.S.S. RELIEF joined

the fleet in World War I, it was the first ship of our Navy which had been constructed at the outset for hospital purposes.

At the start of World War II, the Navy had two hospital ships in commission, the SOLACE and the RELIEF. The SOLACE was at Pearl Harbor when the Japanese made their infamous attack and she served most capably in caring for casualties. At the height of World War II the Navy manned a fleet of 18 hospital ships and included in these were the 6 of the Haven class, of which the REPOSE is one. These ships were designed and built from the hull up as 800-bed modern hospitals.

Three of these fine ships served during the Korean war, the REPOSE, the CONSOLATION, and the HAVEN. Each was equipped with a helicopter landing platform, a recommendation of Vice Adm Joel T. Boone, one of our most distinguished naval medical officers. Casualties could now be flown directly from the battlefield to a floating hospital facility where they received definitive medical and surgical care, frequently only 20 to 30 minutes after they were wounded. Initial evacuation by helicopter, immediate and thorough professional care on the hospital ship, and further evacuation to shore-based hospitals by trained aeromedical teams, undoubtedly saved hundreds of American lives.

When the HAVEN was placed in the reserve fleet in 1957, to function as a dockside hospital at Long Beach, it marked the first time since the Civil War that the U.S. Navy lacked the capability of a complete and modern floating hospital, a medical facility that could be underway to an area of need within a few hours after the call for help went forth.

When the REPOSE sails for Vietnam she not only will be adding another illustrious chapter to her long career of humanitarian service, but her new "facelifting" will provide American servicemen with the finest and most advanced medical treatment in history. Scores of men working around the clock at this shipyard have completely overhauled the

gallant veteran of World War II and Korea. They have probed, painted, and polished her until she looks like new. And she is literally better than ever.

The REPOSE is provided with the most recent hospital equipment and supplies and with a superbly qualified staff. Her medical spaces are designed and located to afford centralized functions and to guarantee maximum patient-care benefits. She is truly a modern diagnostic and treatment facility. Her helicopter pad can receive the heavier craft now in use. If the weather precludes patient transportation by air, ambulatory patients can come aboard by way of one of four ladders and electrically driven hoists will bring litter patients aboard.

There are two crews aboard the REPOSE: the crew responsible for the operation and maintenance of the ship is commanded by CAPT Maher and includes 16 officers and 200 enlisted personnel; the 750-bed hospital is commanded by CAPT Engle, and is staffed by 24 physicians, 3 dentists, 7 Medical Service Corps officers, 2 chaplains, 29 nurses and 250 hospital corpsmen and dental technicians.

In addition to providing the basic facilities and capabilities of a large modern hospital, the REPOSE will carry several innovations to front-line diagnosis and treatment. For years the Navy has pioneered in the preservation of blood by freezing. As yet we have not used frozen blood in Vietnam but we will have the capability for storing and reconstituting frozen blood aboard this ship. I wish to emphasize that this is an additional means of meeting peak requirements; it is a supplement not a replacement for the effective whole blood program that has been and is the responsibility of the Army medical laboratory in Japan. Frozen blood can be stored for an indefinite period of time and reconstituted, ready for use, within a matter of minutes.

The REPOSE will carry a portable pump-oxygenator, an artificial heart, with the trained personnel to utilize it. The feasibility and importance of repairing damaged blood vessels in the arms and

legs in forward medical facilities was definitely established during the Korean War. We believe it should now be determined whether a front-line capability to artificially support the circulation of the patient and do direct surgery on the heart (and the large vessels connected to it) is also important.

Aboard the REPOSE will be the most modern laboratory equipment. Included in the advanced diagnostic techniques available is the one which utilizes an antigen-antibody reaction and a fluorescent dye to rapidly identify the causative organisms of such diseases as tuberculosis and malaria.

Located beneath the helipad is a decompression chamber. This chamber can be used for treatment of flying and diving casualties and also for providing oxygen under pressure for the treatment of certain types of infection including tetanus and gas gangrene.

Finally, the REPOSE will afford an interesting opportunity for the staff to participate in the civic action program. When the work-load permits, the doctors, nurses, and corpsmen will be able to go ashore, into the villages, to help and train the local people to solve their medical problems. When it can be done without interfering with our primary mission, care and treatment of the sick and injured members of the Armed Forces, we will make the REPOSE facilities available for training selected Vietnamese doctors and nurses. Civic action activities are winning for us many new and valuable friends; they also provide professionally rewarding outlets for our medical department personnel. Naval medical personnel are already participating in civic action programs with AID-USOM, at the station hospital in Saigon and with the Marines.

In closing, I express my appreciation to all of those who have so capably planned and accomplished the rebuilding of the REPOSE. My congratulations and best wishes go with the splendid crews that have been selected to operate this fine ship and to carry out the professional duties inherent in the mission of her hospital.

PROCEEDINGS OF THE 71st MEETING OF THE SOCIETY OF BRITISH NEUROLOGICAL SURGEONS

*The 71st Meeting of the Society of British Neurological Surgeons was held at the Royal Infirmary, Sheffield, on 21-22 May 1965. The President, Mr. G. L. Alexander, was in the Chair. Abstracted from J Neurol Neurosurg Psychiatr 28(5):459-463, October 1965.**

AN ASSESSMENT OF THE TREATMENT OF INTRACRANIAL ANEURYSMS

J. Hardman (Sheffield) discussed a series of

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nearly 500 cases of intracranial aneurysms collected during the past 10 years. The material was divided into an old series and a new series, comprising about a third, treated during the past three years when a

higher proportion of cases had been operated on and newer methods used. The overall operability rate had been 65-70%. He noted that age above 50 years, the presence of hypertension, atherosclerosis of cerebral and cardiac vessels, and abnormalities of the circle of Willis affected the risks of operation adversely, and there was differing mortality according to the site of an aneurysm.

In the old series mortality for the anterior cerebral complex was 48% for direct approach and 30% for ligation of one anterior cerebral. That for middle cerebral aneurysms was 27%, direct approach to posterior communicating lesions 36% (with a hemiplegia rate of 44%), and carotid ligation 13% (with hemiplegia rate of 15%). On analysis the cases were graded 1 for subarachnoid haemorrhage and lucid mentally, 2 for similar condition with hemiplegia or aphasia, and 3 for those comatose, confused, or deteriorating. The mortality of group 3 was 100% with or without operation.

There were 118 deaths, 51 operated on, 67 untreated. Eighty-nine were subjected to post-mortem examination. There was infarction in 95%, intraventricular haemorrhage in 42 (intracerebral in 50%), and marked atherosclerosis in 27%.

The radiographs were reviewed in 249 cases for evidence of spasm. This was present in 32% and in these cases the mortality and hemiplegic rates were doubled. Spasm increased after second and subsequent bleeds. The survival rates and mortality depended directly on the number of bleeds.

In the new series every effort was made to make a direct approach to the aneurysm using aids such as controlled respiration, dehydration, hypothermia, manual control of carotids, small lobectomies, and temporary clipping of main vessels for one to four minutes. There was a considerable improvement in results. Mortality in direct attack on anterior cerebral complex aneurysms was reduced to 23% and anterior cerebral clipping to 18%. Mortality in the middle cerebral group was slightly worse at 36%. In direct attack on posterior communicating aneurysms it fell to 6% with a hemiplegia rate of 33%.

He concluded that direct operation should be carried out as soon as possible and that the contraindications to operation were: akinetic mutism, severe widespread arterial spasm, more than 65 years of age, marked arteriosclerosis with history of coronary insufficiency, and high diastolic pressure.

SUPRACALLOSAL ANTERIOR CEREBRAL ANEURYSMS

N. C. Spanos (Romford) reviewed 17 cases of anterior cerebral aneurysm distal to the anterior communicating artery and said that incidences of 2.5 to 4.5% had been published. Half his cases had developmental anomalies of the anterior cerebral arteries. He discussed and illustrated the embryology and comparative anatomy of the anterior cerebral vessels. The commonest anomaly, (four cases), was fusion of the first part of both anterior cerebral vessels at the usual site of the anterior communicating artery into a single trunk which divided at the genu into two pericallosal arteries. The aneurysms were found at this bifurcation. In two cases, there was also a single midline second part of the anterior cerebral dividing at the genu, where the aneurysms were found, but the first part of one anterior cerebral was deficient. In one case there was a communicating vessel between the pericallosal arteries near the genu from which an aneurysm arose. In the remaining eight cases the arterial arrangement was normal and the aneurysm arose from one or other anterior cerebral artery near a large branch, the callosomarginal in seven, and the fronto-polar in one. There was one traumatic aneurysm arising from the pericallosal.

All the patients had had subarachnoid haemorrhage and two presented with symptoms and signs of raised intracranial pressure. Focal neurological disturbances were common and could be explained by the position of the aneurysm and subsequent clot or ischaemia. Pyramidal signs were common but usually slight. Adversive attacks occurred in two patients. Mental changes were common and usually resulted in a post-leucotomylike state or dementia. This occurred in six patients. Sphincter disturbances occurred in five patients.

Operation was carried out in 14 patients, in half a small frontal lobectomy was used and in others the aneurysm exposed after division of the sagittal sinus and separation of the frontal lobes. It was possible to occlude the neck of the aneurysm in all but one case. There was one operative death. After operation four patients showed severe weakness of one or more limbs and this was permanent in two. Three, intellectually intact before operation, showed mild but permanent intellectual change. Two patients with very large aneurysms who showed some dementia before operation were thought to be worse. Two had some permanent sphincter disturbance and one patient developed epilepsy.

BASILAR-VERTEBRAL ANEURYSMS

A. Richardson (London) discussed the natural history of untreated basilar-vertebral aneurysms. His series comprised 60 cases which had suffered from proven subarachnoid haemorrhage and had either angiographic or post-mortem evidence of a single aneurysm of the basilar-vertebral system. These formed a 4% incidence in a series of 1,938 aneurysms. They were patients who had been treated conservatively and in whom there had been an adequate follow-up. Eight were in coma on admission and remained so until death. In a further eight cases recurrence of haemorrhage or clinical deterioration precluded investigation; all died. In the remaining four patients, none of whom appeared in immediate danger of death from the presenting ictus, the diagnosis was made angiographically.

In this latter group the death rate assessed at one year was 50% and there was a rather higher incidence of patients under 50 years of age. Females preponderated but they appeared to have a slightly better natural history. A mortality of 70% had followed coma producing haemorrhage even when good initial recovery occurred, and the capacity of such cases to emerge rapidly from coma was a remarkable feature. There was a high death rate in patients suffering more than one haemorrhage and a higher incidence of multiple haemorrhages before admission than with aneurysms at other sites. Hypertensive cases fared slightly worse than those with a normal blood pressure. Depression of consciousness carried the worst prognosis. There was a tendency to early recurrent haemorrhage. Most of the aneurysms were at or near the basilar artery termination and large aneurysms had a much higher mortality.

There was a remarkably low morbidity in patients surviving for one year, 19 of 22 patients being at full work and the other three being only partially disabled. In a longer follow-up the position changed very little and with eight cases observed for three to six years and 14 for one to two years there had been only one death from an unrelated cause, and no change in the neurological status of the others. After reviewing the literature he concluded that though the surgical results were varied the high natural death rate in this group should foster an aggressive and urgent therapeutic approach to these lesions, particularly as they were relatively easy of access.

NEUROLOGICAL MANIFESTATIONS OF THORACIC INTERVERTEBRAL DISCS

J. Carson (Sheffield) reviewed 18 cases of median

dorsal disc prolapse. Eight had been seen for the first time in a spinal injuries unit and the remainder were studied preoperatively. In this latter group the diagnosis had been made preoperatively in nine and was discovered at operation in one. Three, whose disability was slight, had declined operation, the others were treated operatively.

He noted that the clinical pattern was remarkably consistent but could not be distinguished from the symptoms and signs of spinal cord compression from other causes. The presenting symptom was usually paraesthesiae, more obtrusive on one side and often described as a feeling of cold or burning pain. This was followed by weakness of the legs. Backache was mild and occurred in four cases. Sphincter disturbance was present in two. All had a spastic paraparesis with impairment or perversion of pain sensation below the level of the lesion. Postural sense was, in most cases, intact. In all but two cases the history was short and less than four months' duration. Twelve were male and all in the third decade or over. The disc levels ranged from T.4.5 to T.11.12.

Apart from a block in one case examination of cerebrospinal fluid was unhelpful and in most cases manometry was recorded as normal; in a few there was a slow rise and fall. Radiographs showed disc calcification in two and narrowing of the disc space in four. Final diagnosis depended on myelography and all 10 cases studied preoperatively showed abnormality, suggestive of an extra-medullary lesion. In some, however, first examination was normal or doubtful and only a second or third examination at an interval of a few days revealed the defect.

He stressed that accurate diagnosis was essential, for removal by a conventional laminectomy might convert a partial disability into a paraplegia and even laminectomy without disc removal might severely disturb cord function, whilst the lateral approach was safe and effective. Careful myelography would establish the diagnosis and indicate the correct surgical approach.

PALENCERPHALOGRAPHY

C. G. DeGutierrez-Mahoney (New York) described a method of sound recording from the head which could be used in neurological diagnosis. He reviewed the previous work on this method by the school of Barcia Goyanes following the thesis of Calvo in 1950.

The technique consisted of applying a microphone to various parts of the head and recording the sound vibrations with a phonocardiogram or

electroencephalogram. It was essential that the patient be at rest, for emotional states could increase the heart rate and cause an increase in frequency, amplitude, and configuration of the waves. Movements of the teeth and swallowing also caused a high wave to be recorded.

The recordings were waves which were rhythmical, related to the cardiac cycle, had a frequency of 5 to 20 c/s and a variable amplitude, being highest in the frontal region, of medium grade in the mid-temporal and parietal regions, and lowest in the occipital area. The frequency was also highest in the frontal region, about 20 c/s and about 10 c/s in other areas.

Amplitude was the most useful diagnostic feature of the tracings. This was low over subdural and intracerebral haematomas and high over gliomas, metastatic tumours, meningiomas, and arteriovenous malformations. He had also noted that there was a greater regularity to the wave amplitude with meningiomas than with other processes where the amplitude change was more variable and spiky in character.

SEDATIVE INTRAVENTRICULAR THERAPY

S. Obrador (Madrid) recorded his experiences of the intraventricular injection of a number of different drugs. The effects had been studied in 83 patients, 58 before diagnostic ventriculography, 15 Parkinson patients before stereotactic surgery, eight with intractable facial pain, cases of mental disturbance and epilepsy before psychosurgical operations, and two patients in post-traumatic coma. A total of 28 drugs were tested in 145 intraventricular injections, either directly or by means of a special device allowing repeated injections through percutaneous punctures.

Autonomic effects were noted with many drugs and included nausea and vomiting, sweating and lacrimation, vertigo, vasodilatation, and blood pressure and cardiac changes. Central sedative effects were obtained with barbiturates, reserpine, butyrophenone, and other psychotropic substances. Stronger depressant action affecting respiration appeared with cocaine, morphia, atropine, and xylocaine in high dosage. Chlorpromazine and promethazine induced an intense fall in blood pressure.

As well as other effects morphine induced curious visual hallucinations with distorted perception of optical images and sensations of movement. In 50 patients tested with barbiturates there was a clear sedative action in 29 with some degree of sleep appearing in 15 minutes and persisting for half an hour. In the remainder there was no clear sedative or depressant action and it was noted that in this group

there was a high proportion (43%) of third ventricle and posterior fossa tumours.

It was found that adrenaline and other sedative drugs lowered the body temperature for several hours after injection and he suggested that this effect might have a therapeutic application in some cases of head injury and other lesions.

He concluded that intraventricular therapy with sedative drugs might have a useful place in sedating patients before ventriculography and after head injury or cerebral operations. The barbiturate drugs had a marked anti-emetic effect which was a useful adjunct to sedation in this group of patients.

COLLOID CYSTS OF THE THIRD VENTRICLE

W. McKissock (London) reported a series of 50 cases of colloid cyst of the third ventricle. The incidence in nearly 10,000 cases of verified intracranial tumor had been 0.5%. Seven patients had no physical signs at all and in 20 papilloedema was the only sign. In 24 there was x-ray evidence of raised intracranial pressure. He suggested that in the presence of a suggestive history of headache, visual disturbance, vomiting, 'drop' attacks, and intermissions in symptoms following straight radiographs of the skull the ventricular size should be measured by echo-encephalography; in no cases had the ventricles been normal in size. If ventricular enlargement were proved by this method then ventriculography should be carried out and pressed to an exact conclusion. Demonstration of enlarged lateral ventricles and a block at the foramen of Monro was not enough. If the third ventricle could not be filled then the lateral ventricle should be tapped and a small amount of air introduced cisternally or by the lumbar route.

He described in detail the operative treatment of these cases and stressed that a small brain incision, no more than 1 to 2 cm in length, was all that was required to gain access to the lateral ventricle. It was important to prevent blood seeping into the ventricle. When the cyst had been visualized through the foramen of Monro it was essential to puncture it with a fine needle for sometimes aneurysms could masquerade as cysts. After drainage of the colloid material the pedicle of the cyst could be clipped and divided or, if this proved difficult, the base of the pedicle could be coagulated. It was essential to avoid damage to the terminal vein which might sometimes be adherent to the cyst wall.

There had been eight deaths, six in the first 25 cases. In two of these the patient was in coma on admission and he noted that no patient presenting in

this manner had recovered even when ventricular drainage or cyst removal had been carried out at once. In one no cause of death was found. Damage to the terminal vein had been the cause in two cases.

Of the survivors, there were bad results; of these, two had mental disturbances before operation which had not recovered. Six had mild residual disability, epilepsy in three and memory defect in three, but were working and leading normal lives. The remainder were completely normal people. He concluded that with proper investigation, modern anaesthesia, and attention to certain details of surgical technique, it should be possible to return to a normal existence all but an occasional patient suffering from this condition.

CYSTIC CEREBELLAR TUMOURS: A CLINICO-PATHOLOGICAL RE-APPRAISAL

Lionel Wolman (Sheffield) reviewed the histological findings in a series of 73 cerebellar tumours, the majority of which were associated with a cyst of varying size. Macroscopically the nodule in these cystic tumours ranged in appearance from white, grey or gelatinous, to pink, brown or red. The age distribution of the patients extended from 1 to 65 years, with 45% of them being over 20 years of age. Microscopically, the features common to the group were the rich reticulin network between vacuolated cells or small groups of cells and the frequency of involvement of the pia arachnoid. The reticulin pattern tended to become fragmented in many areas due to hydropic degeneration of the intervening cells or by a gliotic reaction which frequently consisted of piloid astrocytes arranged in bands. This reaction was especially marked in the adjacent compressed folia.

The difficulties in classifying these tumours were outlined and some of the conflicting reports in the literature mentioned. Objections were raised to such a term as "juvenile or piloid astrocytoma" as these tumours were not restricted to the young nor did they behave like gliomas from which they differed in many ways. True astrocytomas of the cerebellum, both fibrillary and gemistocytic, were occasionally encountered and these differed in no respects from these tumours in the cerebrum or brain-stem. 'Spongioblastoma polare' was now applied to an entirely different type of tumour. Haemangioblastoma implied a tumour of 'blast' or primitive cells and had malignant connotations. Although angiorectuloma was a good descriptive term, it had not met with wide acceptance. By comparison with the nomenclature of

similar tumours elsewhere in the body and their tendency to sclerosing change, the term 'gliosing haemangioendothelioma' was tentatively suggested for this group of cerebellar tumours.

D. M. C. Forster (Sheffield) continued with a clinical review of these 73 patients and compared them with 358 with posterior fossa tumours seen over the same period. These included 48 ependymomas, 37 medulloblastomas, and 21 astrocytomas.

In those with haemangioendothelioma the average survival had been seven years and the longest since operation 24 years. Nineteen per cent had died within three months of attendance. For ependymoma the average survival was 13 months, with 46% dying in the first three months and for medulloblastoma eight months and 46%. In the fibrillary astrocytoma the figures were 11 months and 66% and all cases of malignant astrocytoma (grades 3 and 4) had died within a month. No difference in prognosis was found between the cystic and solid tumours and age did not influence the results. No tumour with attachment to the floor of the fourth ventricle was found in patients over 11 years of age.

Of the 73 patients, 70 had surgery, two died before operation, and one had radiotherapy. There were 12 operative deaths, six from pressure cones, and one each from air embolus, pulmonary embolus, mitral stenosis, and meningitis. In two cases there was no necropsy. There were five late deaths; two of unconnected causes, two unknown causes, and one from radiation necrosis and meningitis.

Complete excision was the aim in all patients and this was achieved in 35, of whom 30 were alive. In 14 cases with nodules in large cysts the nodule with adjacent cyst wall was excised and 12 were alive. In 17 cases partial excision was carried out, usually because of attachment of tumour to the floor of the fourth ventricle, and of these 11 were living. Four cases had exploration only and all were dead. Eight patients received radiotherapy at some stage and of these only three were alive so that he considered that this treatment in no way improved the survival rate. Only one recurrence was found in a patient 16 years after decompression and cyst aspiration.

He concluded that the survival rate of these cases after treatment showed a close correlation with the life expectancy of the normal population of the same age. Provided that the initial pressure disturbances could be corrected and operation safely performed without damage to the brain-stem, the future was extremely good; without recourse to radiotherapy and with little risk of recurrence.

LATE INTRACRANIAL BLEEDING AFTER HEMISPHERECTOMY

Huw Griffith (Oxford) described the post-mortem findings in three patients with hemispherectomy who had died some years after operation. These had come from a series of 18 cases of which five had died. He noted that so far the only complications described had been herniation of the remaining brain into the cavity and hydrocephalus of the cavity.

All operations had been done for fits and behaviour disturbances. In two cases the progress had been normal at first but in the third the cavity had had to be re-explored for persistent subgaleal communication and a blocked aqueduct for which a Torkildsen operation had been carried out. After the initial period of good result, headaches and vomiting appeared with pain and stiffness of the legs. The patients slowed up mentally, became ataxic and tremulous, and the previously unaffected limbs became weak and spastic. Investigations showed a blocked aqueduct in one and fourth ventricle in two. One had a subarachnoid haemorrhage and one a high protein fluid in the cavity. One finally died of multiple intracranial haemorrhages in ventricle and cavity and the other two declined steadily in spite of ventriculocisternostomy.

Post-mortem examination showed membrane formation in cavity and lateral ventricle from which repeated haemorrhages had taken place at different times. He believed that in these cases a cycle of bleeding, granular ependymitis, and membrane formation had been set up and repeated bleeding had led eventually to their death.

SOME IMPRESSIONS OF SOVIET NEUROSURGERY

M. A. Falconer (London) reported that he had been a member of a three-man delegation from the United Kingdom to the U.S.S.R. to discuss problems of cerebrovascular disease, and that during that time he had visited among other centres, the three principal Soviet Institutes of Neurosurgery at Moscow, Leningrad, and Kiev respectively. Of about 500,000 medically qualified doctors in the U.S.S.R., more than half of whom are women, there were probably 700 trained neurosurgeons who were organized into one national society and about 50 regional societies. All doctors, including the neurosurgeons, were salaried, and carried out their work under a hierarchical system, the neurosurgeons working in general hospitals, army hospitals, accident centres of various

types, or in one of the three research institutes of neurosurgery.

The Burdenko Institute of Neurosurgery at Moscow, now headed by Professor A. E. Arytyunov, was the largest with 300 beds, and a medical staff including about 40 neurosurgeons, 15 neurologists, and smaller numbers of neuropathologists, neuroradiologists, and neurophysiologists. The Polonov Institute at Leningrad, headed by Professor U. M. Ugriumov, had about 180 beds and a slightly smaller staff, while the Institute at Kiev under Professor Volochin and his docent, Dr. J. A. Zozulia, had about 150 beds with an additional 150 under construction. They were thus all self-centered, as were the Institutes of Neurology in Moscow and Leningrad which had their own neurosurgeons.

Brain tumour work was clearly the chief interest of all the neurosurgical centres visited, but each had developed other interests such as paediatric neurosurgery, stereotaxy, pain relief, and head injuries. Considerable interest was being built up as regards the surgery pertaining to cerebrovascular diseases. All the institutes visited were well-equipped with apparatus both of Soviet and western origin. In several instances, however, the Soviet doctors did not realize the full potential of their western equipment, largely because few of them had been outside the Soviet bloc of countries.

However, many of the younger Soviet neurosurgeons read and spoke English. Many of them also listened to the B.B.C. broadcasts. The western medical literature was culled and abstracted into Russian and so developments abroad were widely circulated. The Soviet neurosurgeons had their own journal known as *Problems in Neurosurgery* and at the end of each article was a short summary in English, while an index in English was placed at the end of each issue.

SPHINCTERIC DISTURBANCES IN DIENTEPHALIC LESIONS

J. Andrew (Romford) and P. Nathan (London) described a group of cases in which there had been disturbances of micturition in association with lesions in the anterior diencephalon. In a series of 50 anterior communicating aneurysms, five had such disturbance after operation without evidence of frontal lobe disturbance. They were unaware that the bladder was full or had any only momentary warning and could not stop voiding. They were aware of this difficulty and distressed by it. One

patient had painless retention of urine and loss of reflex and voluntary detrusor activity. There were three cases of tumour below the hypothalamus in which there was urinary incontinence as a manifestation of focal brain disturbance not related to the patients' mental state. In one 48-year-old woman with a chiasmal cyst there was greatly increased libido. They believed that a similar condition could result from the 'punch-drunk' syndrome in which there was usually some thinning or perforation of the septum pellucidum. They stated that the sphincter disturbances in these cases was most probably due to ischaemia or compression of the septal nuclei and anterior hypothalamus. They noted that this area was supplied by small vessels from the anterior cerebral and anterior communicating arteries. These vessels could easily be affected by spasm in repeated head trauma, compression, or the stretching and distortion associated with expansion or rupture of an aneurysm.

They concluded that lesions in the pre-optic area, the septal nuclei, and the anterior hypothalamus could lead to disturbances of micturition, or normal bowel action and less commonly, sexual function. These facts added to experimental data suggested that normal micturition, defaecation, and sexual function were organized in the septal and hypothalamic areas and that frontal lobe function was probably to integrate these physiological processes with the activities of daily life.

LOWER LUMBAR AND SACRAL ROOT AND SHEATH LESIONS

P. Schurr (London) described various abnormalities of the roots, root sheaths, and meninges in the lumbar and sacral areas and illustrated these from his clinical material.

In root sheath lesions he said there could be dilatation and prolongation of the sheath and this might cause unusual symptoms in disc lesions. The union of two roots in one dural sheath might suggest root enlargement and this could also be suggested when the ganglion lay in the proximal root sheath. Traumatic cysts could be produced after operations for disc prolapse. Perineural cysts were found in the region of the dorsal root ganglion in the potential space between perineurium and endoneurium, or between dura and arachnoid. They contained yellow fluid or altered blood, were never more than 2 cm in diameter, and rarely communicated with the cerebrospinal fluid. They were probably due to a proximal arachnoid block which sealed off the distal space

forming a cyst which dissected the ganglion and might cause reactionary changes or haemorrhage in adjacent tissues. They were often symptomless. Treatment was often unsatisfactory and it might not be possible to do more than aspirate the fluid. Intraneural cysts had been described but he had not had an example of this form.

He said that extradural sacral cysts distorted the dura and cauda equina causing root compression and traction. They were more common in the thoracic area. They consisted of an arachnoidal herniation through a hole in the dura and arose most frequently in the axilla of a root sheath. Later the arachnoid ruptured and a false cyst formed beyond the opening. This was only in intermittent communication with the cerebrospinal fluid. They might cause extensive symptoms and signs related to the cauda equina and often scalloped the body of the sacrum and thinned the roof. Operative treatment consisted of exposure of the cyst and display of the opening and then a collar of fascia was placed around the root sheath adjacent to the opening.

He noted that these cysts could usually only be distinguished by radiography. This might show widening of the sacral canal or of a foramen and myelography would demonstrate the cyst or its border if the cyst did not fill. Late films should be taken after one or two days, and possibly again after several weeks, if the diagnosis was in doubt.

PRIMARY CUTANEOUS TUBERCULOSIS RESULTING FROM MOUTH-TO-MOUTH RESPIRATION*

*Kenneth M. Heilman MD,[†] and Carl Muschenheim MD,^{††} New York City. *New Eng J Med* 273(19): 1035-1038, November 4, 1965.*

Since the advent of the chemotherapy of tuberculosis primary cutaneous tuberculosis has become a rare clinical entity. With the reinstitution of mouth-to-mouth artificial respiration the physician has increased his chances of exposure to the tubercle bacillus. The case of primary cutaneous tuberculosis reported below presented an interesting problem in differential diagnosis and treatment. It also serves as a warning of some of the hazards of mouth-to-mouth resuscitation.

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^{††} Clinical professor of medicine, Cornell University Medical College; attending physician, New York Hospital.

Case Report

K.M.H., a 25-year-old intern in the Second (Cornell) Medical Division at Bellevue Hospital, had enjoyed good health his entire life and had negative P.P.D. tests throughout medical school. On August 31, 1963, J.H. was admitted to Bellevue Hospital in a semicomatose state. No history was available at this time. Shortly after admission and before his work-up could be completed respiratory and cardiac arrest occurred. Mouth-to-mouth respirations and closed-chest cardiac massage were initiated by K.M.H. After 5 minutes of resuscitation J.H. did not demonstrate any myocardial or respiratory activity. The pupils were dilated and fixed, and resuscitation was terminated. Postmortem examination disclosed active tuberculosis of the right upper lobe. Six weeks after this episode, a tuberculin test was again performed on K.M.H., with a strongly positive reaction to 1st-strength P.P.D. Repeated x-ray films of the chest remained normal. It was believed at that time that no therapy should be instituted but, instead K.M.H. should be followed at 3-month intervals with x-ray examinations of the chest.

Approximately 8 weeks after his contact, K.M.H. noted, while shaving, a slightly tender, freely movable, submaxillary lymph node 2 by 3 cm. Further examination revealed 2 small pustules near the left nasolabial fold. Otherwise, routine physical and laboratory examinations remained within normal limits. Repeated cultures of these pustules and subsequent ulcers revealed coagulase-positive staphylococcus and were negative for acid-fast bacilli on both smear and culture. About 1 week after their onset the pustules broke and left 2 indurated ulcers, 0.5 by 0.5 cm, with flat bases and rolled erythematous borders and without exudate. Despite local therapy with frequent warm soaks, hexachlorophene (pHiso-Hex) baths and topical antibiotics, the ulcers progressed in size until December 1963, when they measured 1 by 1 cm. Because they did not respond to this therapy a punch biopsy was taken of both lesions on December 4, and the biopsy site was cultured. The biopsy showed granulomatous inflammation, and the culture for acid-fast bacilli was subsequently positive. The organism was sensitive to isoniazid (INH), with which the patient was treated, receiving 300 mg daily. After 2 months of therapy the lesions involuted, and the submaxillary node be-

came barely palpable. On February 15, 1965, after 12 months of INH, treatment was terminated, without evidence of recurrence.

Discussion

A case of primary cutaneous tuberculosis is presented. With the history of a tuberculosis contact and the P.P.D. conversion active tuberculosis was suspected. However, because of the rarity of primary cutaneous tuberculosis and the difficulties involved in culturing the acid-fast bacillus from the skin, the diagnosis and appropriate therapy were delayed.

Most cases of primary skin infection have been reported in children and pathologists. Persons working with tuberculous patients are always in danger of contracting this disease. Skin inoculation usually takes place through an open wound. To our knowledge, no cases have been reported in which inoculation resulted from mouth-to-mouth respiration.

Describing the clinical picture, Ghon stated that the behavior of primary cutaneous tuberculosis is like that of the more common primary pulmonary tuberculosis and, with regional lymph node involvement, constitutes a primary complex. The findings in the present case are in accord with the clinical picture mentioned in several reviews and case reports. In the differential diagnosis pyogenic ulcer with bubo, epithelioma with metastases to regional lymph nodes and syphilitic chancres must be ruled out. Other less common diseases that may present a similar picture are sporotrichosis and sub-acute tularemia.

Before the era of the chemotherapy of tuberculosis most cases of primary cutaneous tuberculosis were treated with excision, radiation and supportive care. In those not treated fistulous openings often resulted. European researchers now believe that INH is the treatment of choice and is superior to both previous modes of therapy and combination therapy.

This case also illustrates the need for readily accessible pulmonary-resuscitation apparatus. Currently all Second (Cornell) Medical Division wards at Bellevue Hospital are equipped with laryngoscopes, endotracheal tubes and rebreathing bags. The house staff has been trained in the use of this equipment. It is hoped that with the use of this apparatus the necessity for mouth-to-mouth respiration—and hence the risk involved in pulmonary resuscitation—will be significantly reduced.

A COMPACT HAND DRILL FOR EMERGENCY BRAIN DECOMPRESSION

Charles Burton MD* and H. Martin Blacker MD**, *Division of Neurological Surgery, The Johns Hopkins University School of Medicine, Baltimore, Md. J Trauma 5(5):643-646, September 1965. Copyright 1965 by The Williams & Wilkins Co.*

Every emergency room physician has at sometime been presented with a deeply comatose patient demonstrating increased intracranial pressure secondary to trauma. The history and evidence of injury may be evident, but all too often these factors are lacking and the association of the patient's clinical condition with trauma may be uncertain.

Brain decompression must be carried out. This is ideally performed in the operating room. In a rapidly deteriorating patient, however, where time is of the essence, burr or twist drill holes offer access to the intracranial cavity permitting decompression by the removal of fluid contents as a prelude to formal surgery. Immediate decompression under these circumstances can prevent further irreversible neurologic deterioration and may be lifesaving. Decompression prior to surgery may also prevent brain herniation and brainstem anoxia secondary to coughing and "bucking" on an endotracheal tube during the process of intubation.

Although burr holes are preferable to twist drilling, there are circumstances where the burr may not be quickly available. As a result of such frustration in cases requiring emergency intervention the authors have felt that a need existed for a simple means of achieving rapid decompression, particularly in patients whose survival could be measured in minutes.

A hand twist drill has been designed for this purpose. Its use at Johns Hopkins and Baltimore City

Hospitals has already converted moribund patients to those fit for definitive therapeutic procedures. The drill is light and compact, being constructed of anodized aluminum and having a length of four inches (Fig. 1).

The twist drill bit is of type 316 stainless steel with a Rockwell hardness of approximately C34 and a diameter of 0.155 inches. It was selected after evaluating a spectrum of different steels and cutting designs on fresh cadaver skulls. After the scalp has been shaved, prepped, draped, and infiltrated with local anesthesia (if necessary), a 4 mm stab incision is made to the bone with a number 15 scalpel blade. Handle design of the drill is such that a maximum amount of controlled force can be applied by alternately pronating and supinating the hand with the wrist in neutral position (Fig. 2).

When the drill bit has penetrated the diploic space the drill will hold its position without support. At this point clock-wise turning will allow the bit to emerge through the inner table of the skull. This is usually felt as a definite end point by the operator. The average time necessary to place a twist drill hole under clinical conditions has been less than thirty seconds. Following placement of the hole the operator then has access to the epidural, subdural and ventricular areas with suitable needles. The drill (with nylon cap) is bagged in nylon,[†] sterilized by steam autoclave, or gas, and carried as a sterile and

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** Resident in Neurosurgery.

[†] Obtained from V. Mueller and Company.

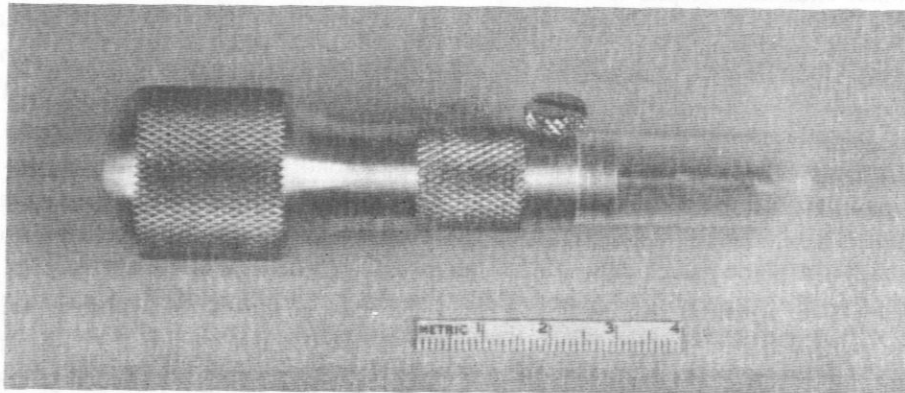


Fig. 1. Compact hand drill with protective nylon cap.

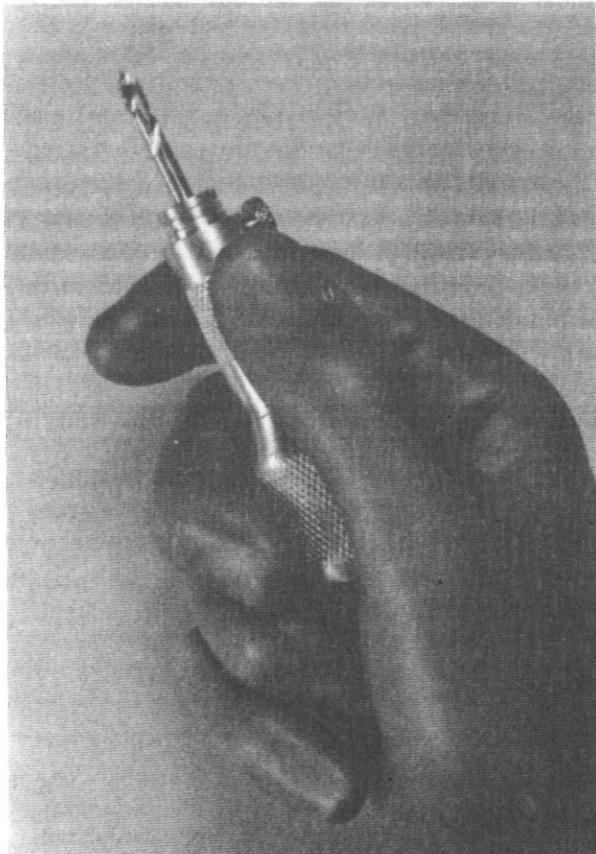


Fig. 2. Manner of grasp.

transparent package (Fig. 3). The length of exposed drill bit can be varied in two ways: the bit can be extended beyond the protective cap by the use of the knurled stainless steel set screw, or the protective nylon cap can be cut to a smaller size allowing the drill bit to protrude beyond it. In practice it has been found that the degree of control is such that these options are rarely used.

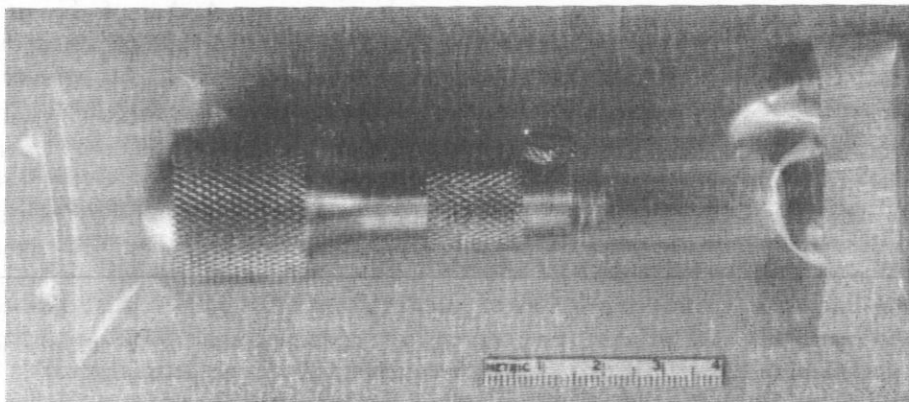


Fig. 3. Compact hand drill in sealed nylon bag.

In our cases over a two-year period the hand drill has served both as a diagnostic and therapeutic instrument. It has been of particular benefit in the evaluation of comatose patients with suspected chronic subdural hematomas. In such patients twist drill holes allow access to the subdural space. The presence or absence of a chronic subdural collection can be determined by passing an appropriate needle through the dura and enough liquefied material removed to allow the reduction of increased intracranial pressure. There has often been an immediate and dramatic improvement in the level of consciousness following decompression by this technique.

Under conditions where arteriography cannot be performed, a twist drill hole also provides a convenient diagnostic possibility by allowing access to the ventricular system. By exchanging a small amount of cerebrospinal fluid with air and then exposing an anteroposterior skull x-ray, the ventricles can be delineated and a shift across the midline demonstrated.

Twist drilling has been of only occasional assistance in the management of acute head injuries where epidural or subdural hematomas consist of clotted blood and aspiration through a needle is difficult. Time should not be wasted in attempting this, to detract from the patient's being rushed to the operating room. In cases where delay is unavoidable due to shock or other injuries, and a brace and bit are not obtainable, twist drilling appears indicated.

The use of a twist drill and subsequent brain needling is not an innocuous procedure. Subdural, subarachnoid, and intraventricular hemorrhages have been found in some of our patients at operation and at autopsy. For the most part they have been minor, but in one case a significant subdural hema-

toma was produced, interestingly enough, from a middle meningeal artery branch perforation. The risk entailed in this procedure must be weighed against the situation. In an emergency we believe the risk is not significant, and under such circumstances the compact hand drill offers valuable options in the diagnosis and treatment of increased intracranial pressure secondary to head trauma. In areas where instruments or operating rooms are not readily available, it can also serve as a means of maintaining a patient until transportation to the necessary facilities can be accomplished.

NOTE:

Dr. Burton, in his letter giving the News Letter his and Dr. Blacker's permission to reprint their

article adds: "Although the instrument was developed at the Johns Hopkins and Baltimore City Hospitals we have felt that its greatest value might very well lie in areas where operative facilities might not be readily available.

"Although the article deals only with trauma, particularly subdural hematomas, the drill is also of prime use for brain decompression in cases of obstructing brain tumors. Since many Naval units are often remote from operating rooms the drill can serve as both a diagnostic and interim therapeutic tool allowing maintenance of a patient until formal surgery can be accomplished."

—Editor

FROM THE NOTEBOOK

THE ARTIFICIAL KIDNEY

"The Artificial Kidney: What It Is and How It Works", the first of a new series of informative publications on kidney disease, its prevention and treatment, has just been issued by the Public Health Service, U.S. Department of Health, Education, and Welfare.

Recent television programs have focussed national attention on the dramatic lifesaving treatments possible with the artificial kidney. The operation of such devices is complex; the new booklet reduces this complexity to easily understood basics.

The artificial kidney, the booklet reports, can take over the vital functions of the kidneys, if they fail as a result of diseases or injury. Like the natural kidney, the artificial one can remove wastes from the body, regulate the internal chemistry of the body, and control the amount of water in the body.

In the artificial kidney, the patient's blood passes through a cellophane compartment which is in turn surrounded by a cleansing fluid. Wastes and other chemical substances can pass back and forth between compartments through microscopic holes, or pores, in the cellophane. In addition to removing undesirable elements from the blood, the artificial kidney can be used to add certain vital substances that are lacking in the blood.

Single copies of "The Artificial Kidney . . ."

(PHS Publication No. 1409) are available without charge from the Division of Chronic Diseases, Public Health Service, Washington, D. C. 20201. The booklet may be bought in quantity from Superintendent of Documents, Government Printing Office, Washington, D. C. 20402, at 25 cents a copy or \$18.75 per 100 copies.—PHS, DHEW, December 22, 1965.

LEPROSY

Leprosy is twice as prevalent in the world today as it was 10 years ago, according to an article in the current issue of the *Rehabilitation Record*, professional magazine of the Vocational Rehabilitation Administration. Author of the article is Dr. Paul W. Brand, British surgeon noted for his work with leprosy victims in India for two decades.

Dr. Brand's comments will be of special interest to persons in more than 100 countries who next month will participate in the thirteenth annual World Day for Leprosy Sufferers. A highlight of last year's event was President Johnson's statement calling attention to this scourge and to the action needed to relieve the plight of its victims. Miss Mary E. Switzer, U. S. Commissioner of Vocational Rehabilitation, is chairman of the forthcoming observance, scheduled for January 30, 1966.

In his *Rehabilitation Record* article Dr. Brand

refers to leprosy as "one of the oldest diseases and one of the last to receive the benefits of modern medical science." He says flatly that the dread disease "is not being controlled." Partly because the stigma associated with leprosy still makes its victims outcasts, about three-fourths of the world's 15 million known to have the disease are not taking treatment for it, he says.

Dr. Brand advocates more active association of medical and rehabilitation workers to fight leprosy, because it poses both "a serious public health problem and a desperate personal problem." Such a merging of talent and interest is now producing good results, he says, in Vellore, in Nigeria, in Venezuela, and, most recently, in plans for an all-Africa center for the rehabilitation of leprosy patients, to be operated in connection with the new medical college at Addis Ababa, Ethiopia.—Vocational Rehabilitation Administration, USDHEW, December 23, 1965.

TRIVALENT POLIOVIRUS VACCINE

For availability and administration refer to BUMED NOTICE 6230 dated 23 December 1965.

CARCINOMA OF THE PROSTATE GLAND

The occurrence of a carcinoma of the prostate gland in a 17 year old boy is reported in the December issue of *The Journal of Urology* (94: 691-694, 1965) by H.J. Ellner, A.M. Putra and I. Le Compte and the Management of Testicular Tumors in Children is discussed in the same issue by William J. Staubitz, Theodore C. Jewett, Jr., Imre V. Magoss, Worthington G. Schenk, Jr., and Suchint Phalakornkule.

RESEARCH PROJECTS TO IMPROVE NURSING CARE

A decade of Federal support for research projects to improve nursing care has been summarized in a new publication prepared by the Division of Nursing, U. S. Public Health Service.

"Research in Nursing—1955-1965" contains brief descriptions of all 163 projects undertaken during that period with funds administered by the Division of Nursing. The studies fall into three broad areas: the delivery of nursing care services to patients in homes and health facilities; the education, selection, and personal characteristics of the nurse supply; and ways of strengthening and communicating nursing research itself.

"Research in Nursing—1955-1965" states the

title, purpose, and the period of support for each of the 163 projects; includes information about research settings, methods, and tools; and lists the members of the investigating teams and tells where they may be reached for further information. For easy reference, it presents a subject index ranging from "Aged," "Alcoholism," and "Ambulatory Care" to "Systems Research," "Therapeutic Role," "Tuberculosis," and "Wellness." It also serves as a bibliography on research in nursing. Following each project which has been publicly reported there is a chronological listing of articles and other published materials.

Over 350 reports are listed, including a number of full-length books. There are widely reported studies in each of the three broad research areas of nursing care services, the nurse supply, and the stimulation and communication of nursing research. For example, the project on "Nursing Needs of Elderly Chronically Ill Ambulatory Patients" resulted in 16 reports; "Curriculum Research and Evaluation in Basic Nursing Education," in 12 reports; and "Program for Research Development in Nursing," in 31 reports.

"Research in Nursing—1955-1965," PHS Publication No. 1356, 67 pages, may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., at 30 cents a copy. Further information about the Nursing Research Grants Program may be obtained by writing the Division of Nursing, Public Health Service, U. S. Department of Health, Education, and Welfare, Washington, D. C. 20201.

ACLANT MEDICAL CONFERENCE

The Headquarters of the Supreme Allied Commander, Atlantic convened a medical conference for the Allied Countries Atlantic on 8, 9, 10 November 1965. Following this conference the members were hosted at the U.S. Marine Corps Base, Camp Lejeune, North Carolina on 12 and 13 November 1965. The delegation observed a Battalion Aid Station, a Collecting and Clearing Company, a 100-bed Field Hospital, a Field Dental Unit and a helicopter rigged for medical evacuation. In addition they conferred with CAPT William Baker MC USN, Division Surgeon, SECOND Marine Division and CAPT James H. Boyers MC USN, Commanding Officer, Medical Field Research Laboratory.

The conference afforded the conferees a very interesting and knowledgeable program of the medical field activities at Camp Lejeune.—Code 3, BUMED.

U.S. NAVAL HOSPITAL, ST. ALBANS HOSTS
BROOKLYN SURGICAL SOCIETY
FOR JOINT MEETING

A joint meeting of the Brooklyn Surgical Society and the surgical staff of the U.S. Naval Hospital, St. Albans, New York was held in Pratt Auditorium at the Naval Hospital at 1800 on 2 December 1965. Papers were presented by four members of the naval hospital surgical staff and discussions conducted on each by guest speakers from the Surgical Society.

LT C. B. Volcjak MC USN, presented a paper entitled "Multiple Polyposis, Colon, Osteomatosis and Soft Tissue Tumors (Gardner's Syndrome)—Case Report and Review of the Literature." The discussion on this paper was headed by A. W. Martin Marino Jr., MD, Chief, Division of Colon and Rectal Surgery, Brooklyn Hospital, Brooklyn, New York.

A paper entitled "Vasography-Results of Clinical Experiences at St. Albans Naval Hospital in the Past Five Years" was presented by LT W. Gee MC USN and discussed by Charles C. Fries, MD, Assistant Professor of Surgery, State University of New York Downstate Medical Center.

LCDR M. R. Plaut MC USN presented "Side-to-side Anastomosis for Occlusive Lesion at the Carotid Bifurcation in the Neck." Discussion on this topic was presented by Philip N. Sawyer, MD, Associate Professor of Surgery, State University of New York Downstate Medical Center.

"The Triple Lumen Catheter" was the topic of a presentation by LCDR J. A. Zimble MC USN and was discussed by CAPT C. W. Lewis MC USN, Chief of Urology at the U.S. Naval Hospital, St. Albans, New York.

Among the honored guests were H. Robert Freund, MD, President-Elect of the Brooklyn Surgical Society and Gabriel F. Cuculo, MD, Secretary-Treasurer of the Society. Also present were Edward N. Cartnick, MD, President of the Nassau Surgical Society, and Charles W. Mueller, MD, President of the Brooklyn-Long Island Chapter of the American College of Surgeons.

Another guest present was John M. Scanell, current Medical Director of the Inter-County Blood Bank in Jamaica, New York, who attended the first meeting between the Brooklyn Surgical Society and the Naval Hospital at the U.S. Naval Hospital, Brooklyn, New York in 1924.

The scientific portion of the meeting lasted an hour, adjourned, and reconvened at the Officers Club for dinner. (For additional information, contact

Public Information Officer, U.S. Naval Hospital, St. Albans, New York 11425.)

DEPO-PENICILLIN

Non-Allergic Reactions

An article recently published in a German medical journal (Clin-Alert No. 285, 1965) called attention to acute non-allergic reactions which may occur following the intramuscular administration of procaine-free and procaine-containing depo-penicillin preparations. The subject is briefly reviewed in the October 30th issue of The Medical Journal of Australia. The reactions are characterized by sudden onset (in most cases 30 seconds after completion of the injection), induction of great anxiety in the patient, and the absence of signs of circulatory disturbance. The exact explanation of the attacks remains obscure. Some investigators suggest that the reactions are caused by the accidental intravenous injection of the preparation, though whether they should be regarded as an embolic phenomenon or as a toxic reaction to procaine penicillin is a matter of speculation. The observation has been made that such reactions are never seen after injection of procaine penicillin in oil. Some clinicians have, as a result, abandoned the use of aqueous procaine penicillin suspensions in favor of oily products. Comments & Abstracts, M. J. Australia 2: 762 (Oct. 30), 1965. From Clin-Alert No. 2, January 5, 1966.*

CORTICOSTEROIDS

Pseudotumor Cerebri

Pseudotumor cerebri is a rare but important complication of corticosteroid therapy. 'Pseudotumor cerebri' is one of several names given to a syndrome of prolonged increased intracranial hypertension unrelated to a space-occupying lesion. Symptoms include headache, blurring of vision, diplopia, and, to a lesser extent, tinnitus, nausea, vomiting, ataxia, and disorders of speech. The signs of pseudotumor cerebri are specific and consist of bilateral papilledema with or without associated retinal hemorrhages or exudation, together with abducens, or sixth-nerve paralysis. The present authors observed a 21-year-old patient who developed pseudotumor cerebri after receiving corticosteroids (prednisone and triamcinolone) orally in modest dosage for about five years. Symptoms subsided upon gradual withdrawal of steroid therapy.—Sternberg & Bierman (Los Angeles, Calif.) Arch. Dermatol 92: 746, De-

cember 1965. From Clin-Alert No. 4, January 5, 1966.*

FLUID SILICONES

Articles in the lay press extolling the virtues of liquid silicone injections for soft tissue augmentation resulted in sustained public interest in this technic. Silicones for injection are regarded as new drugs by FDA and may not be distributed in interstate com-

merce except under terms of a claimed investigational drug exemption. One such application has been filed with FDA but specifically excludes the mammary area. At this time there is no legal traffic in silicones for augmentation of breast tissue.—Sadusk (Washington, D.C.), Arch Dermatol 92: 761, December 1965. From Clin-Alert No. 5, January 5, 1966.*

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DENTAL SECTION

CLINICAL DEMONSTRATION OF CARIES ARRESTMENT FOLLOWING TOPICAL STANNOUS FLUORIDE TREATMENTS

Mercer, V. H. and Muhler, J. C., J. Den Children 63(2): 63-72, Second Quarter 1965.

Numerous published reports present evidence which supports the observation that topically applied SnF_2 is effective in arresting the progress of existing caries lesions. The clinical characteristics of the SnF_2 arrested lesion have been described. The mechanism by which this arrestment is thought to occur has been suggested. However, clinical documentation of this phenomenon has not previously been presented. This study was designed to record by color photography the progress of existing caries lesions in two groups of children, a control group which received no SnF_2 treatment, and an experimental group which was treated with SnF_2 in three agents. In addition to this in situ photographic documentation, laboratory studies were conducted on teeth treated in situ, to determine the tin and fluoride content of carious and sound enamel immediately after treatment and at monthly intervals after treatment.

From children screened to eliminate any who had previous contact with fluoride either from communal water supply, topical application or use of a SnF_2 dentifrice, 22 children were divided into two equal groups balanced as closely as possible by pairing the children so that each had the same number of lesions in the same locations and of the same size on the same tooth as his counterpart in the other group. The control group received semiannual prophylaxis with lava pumice followed immediately with distilled water topical application. The experimental group received semiannual prophylaxis with the lava pumice— SnF_2 mixture followed immediately with topical

application of 8 percent aqueous SnF_2 and provision of the SnF_2 - $\text{Ca}_2\text{P}_2\text{O}_7$ dentifrice. The control group was provided with the same dentifrice minus the SnF_2 and $\text{Ca}_2\text{P}_2\text{O}_7$. All of the visual caries lesions in both groups were photographed before treatment, immediately after treatment and at one week after treatment; and this was repeated with each six month retreatment. For laboratory study of teeth treated in situ, the teeth were treated with either SnF_2 prophylaxis, topical SnF_2 , or both; samples of carious enamel were removed from four patients by routine dental techniques; and the samples were analyzed for fluoride and tin content by described methods.

A series of eight paired photographs published in this report show no apparent increase in gross size of the lesions in subjects treated with SnF_2 in three agents, while in each instance there were measurable increases in the size of the lesions in the untreated control subjects.

Quantitative analysis of both sound and carious enamel indicated that both tin and fluoride are progressively lost over a six month period, and that the rate of loss of each is slower after treatment by both SnF_2 prophylaxis and topical application, than after treatment by either method alone.

PERIODONTAL DISEASE—ACCESSORY CANALS AND PULP PATHOSIS

Rubach, W. C. and Mitchell, D. C., J. Periodont 36(1): 34-38, Jan-Feb 1965.

This study of pulp pathosis mediated through accessory canals in cases of periodontal disease indicates that the pulp and periodontal disease in the minds of clinicians have been too frequently regarded as independent and apart. The relative frequency of pulp exposure through periodontal recession involv-

ing exposure of lateral auxiliary canals was demonstrated in 74 teeth. Prior to extraction, record was made of the presence of caries, restorations, attrition or abrasion, erosion, premature contact, degree of mobility, presence of supra or subgingival calculus, gingival recession and type and amount of bone loss. Pocket depth on each surface was measured.

Accessory or auxiliary canals were present in 33 of 74 specimens. Most were apical auxiliary canals, which in many cases were surrounded by cementum. Eight cases of accessory canals were located more coronally. In five of those eight specimens, location of the accessory canal in connection with periodontal pockets was observed microscopically. Various stages of advancement of inflammation inward toward and including the pulp were seen. These ranged from periodontal granulation tissue at the accessory canal orifice, to necrosis of the pulp. Pulpitis or necrosis associated with the periapical extension of periodontal disease was found in an additional six specimens.

The authors point out that the periodontist should be aware of this potential source of pulpal contamination. Careful examination of roentgenograms should be made to reduce the possibility of accessory canals being exposed by gingivectomy procedures. Osseous reduction designed to lower the level of existing bone to allow adequate cleansing of the bifurcation region is a common form of therapy.

Surgical exposure of accessory canals would result in pulp exposure.

CHROMOSOMAL ABNORMALITIES AND ORAL ANOMALIES

*Gorlin, R.J. and Redman, R.S., Am J
Surg 108: 370-379, Sept 1964.*

With the discovery that man has not 48 but 46 chromosomes, interest in human chromosomes and the conditions that arise from their abnormal behavior has mushroomed. Oral anomalies often accompany both the autosomal chromosome syndromes and the sex chromosome syndromes.

Among the oral and facial anomalies associated with mongolism or Down's syndrome are a small skull; facial asymmetry; poor development of the bones of the middle face, producing a relative prognathism; open mouth; small mouth and relatively large tongue; lips that are broad, irregular, fissured and dry; tongue that is fissured and furrowed; V-shaped mandible; abnormal upper lateral incisors (either missing or malformed); small teeth; delayed eruption of teeth; high, arched or narrow palate, small mouth with corners pulled down by the pterygium colli, prematurely erupted teeth, crowded teeth and short roots on the teeth.

(D Abs 10(7): 434, July 1965. Copyright by the American Dental Association. Reprinted by permission.)

PERSONNEL AND PROFESSIONAL NOTES

GOVERNMENT POST CARDS UTILIZED. Due to a large volume of personal correspondence being received in the Dental Division, BuMed, and a heavy work load of routine matters, many replies will be made, when possible, by utilizing government post cards. Requests for reassignment, when in the best interest of service requirements, also may be answered by the issuance of appropriate orders.

APPOINTMENT TO AMERICAN BOARD OF ORAL SURGERY. CAPT P. J. Boyne DC USN has been appointed to the Advisory Committee of the American Board of Oral Surgery. The Naval Dental Corps is also represented on the American Board of Oral Surgery by CAPT D. E. Cooksey DC USN, who is presently President of the Board.

COMMUNITY WATER FLUORIDATION. Three papers on community water fluoridation by the staff of the Disease Control Branch, Division of Dental Health, Public Health Service, U.S. Department of Health, Education, and Welfare, appear in the November issue of the Journal of the American Dental Association. The papers review the twenty year history of fluoridation and outline steps for future acceptance of the measure. The entire November issue of the Journal is devoted to fluoridation.

DENTAL OFFICERS PRESENTATIONS. A professional meeting was held at Sangley Point, Republic of the Philippines on 11 December 1965. The program included introductory remarks by CAPT R. F. Erdman DC USN and a presentation, The Amalgam Restoration, by LT E. F. McGee DC USNR.

CAPT L. S. Hansen DC USN, U.S. Naval Dental School, National Naval Medical Center, Bethesda, Maryland, presented a lecture entitled Oral Cancer and Related Surgical Procedures before the Jackson Dental Society on 12 January 1966, in Jackson, Michigan.

A dinner meeting of the California Academy of Periodontology was held at the U.S. Naval Station, Treasure Island, San Francisco, California on 16 November 1965. The presentation Acute Periodontal Lesions was made by CAPT A. L. Wallace DC USN and The Prevalence and Etiology of Gingival Recession was presented by CDR W. J. Gorman DC USN.

LCDR W. R. Cotton DC USN, Dental Research Department, Naval Medical Research Institute, Bethesda, Maryland, presented a paper entitled New Techniques and Their Application to the Study of Pulp Tissue before the Workshop on the Biology of the Dental Pulp Organ at the University of Alabama on 28 September to 1 October 1965.

NEW FINDINGS IN PAROTID GLAND FLUID.

One of the perplexing problems in establishing parotid gland secretion as a useful body fluid for assay of general physiologic states is the fact that nearly every component, protein or salt, varies in concentration from time to time during the day. Furthermore, the fluid constituents are highly dependent on the rate of flow and type of stimulation. The ad-

vantages of having a useful measure of health or disease is easily cannulated parotid fluid as opposed to blood are obvious.

Research at the Dental Department of the Naval Medical Research Institute at Bethesda, Maryland, has revealed that the first dissociation constant of carbonic acid (pK'_a) in the parotid secretion is an independent variable for the individual. Regardless of the rate of flow from the gland or the type of stimulation this factor remains constant.

LT George E. Clark DC USN, a Research Fellow on duty in the Chemistry Division of the Dental Department at NMRI, has studied the parotid gland secretions of 7 different subjects for prolonged periods under all forms of stimulation and at different times of the day. The pK'_a did not vary in the subjects. However, it was different from one person to another and appeared to be dependent only on the quantity and quality of the protein contained in the individual secretion. On this basis it was postulated that this constant might be related to a normal health state and vary only if the nature of the parotid gland protein was altered due to disease or stress. Efforts to confirm or deny this proposition are underway.

LT Clark is assigned to a Postdoctoral Fellowship in Biochemistry under the guidance of CAPT K. C. Hoerman DC USN and Mr. A. Y. Balekjian of the Dental Department at NMRI.

PREVENTIVE MEDICINE SECTION

IMMUNIZATION INFORMATION FOR INTERNATIONAL TRAVEL, 1965-66 EDITION

The booklet, "Immunization Information for International Travel," revised June 1965, has been published. Previous issues of the booklet and any addendums should be destroyed.

Changes in immunization requirements occurring before the next issue of the booklet will continue to be listed under the item "Quarantine Measures" in the weekly Morbidity and Mortality Report, published by the Communicable Disease Center, Atlanta, Georgia 30333. Persons not receiving this report may write to that office to be placed on the

mailing list. Copies of the booklet may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402, at 35¢ a copy. There is a discount of 25% for 100 or more copies delivered to the same address.

The principal revisions are included in Section 5 which contains the most current information on the immunization requirements for entrance to countries. Section 11 includes maps depicting the status of malaria in the Americas, Africa, Asia and Europe. Another important revision is the extension of the validity of the International Certificate of Vaccination or Revaccination against Yellow Fever from 6 to 10 years.—PrevMedDiv, BuMed.

DIPHTHERIA IN A GROUP OF INDIAN FAMILIES DOUGLAS COUNTY, NEBRASKA

*Morbidity and Mortality Wkly Rpt, CDC,
USDHEW, PHS 14(45): 386-387, Nov 13, 1965.*

On 18 September 1965, in Omaha, Nebraska, a physician saw a 3-year old Indian child who was not seriously ill but was suffering from a bloody nasal discharge. The following day the Omaha-Douglas County Health Department Laboratory reported a presumptive isolation of *Corynebacterium diphtheriae* from the child. Swabs were then immediately obtained from 9 household contacts in the child's home.

Subsequent laboratory studies yielded isolates of virulent *C. diphtheriae* from nasal smears taken from the child, his father, and 2 siblings. During the following week, 42 additional contacts in 11 closely associated neighboring families were investigated and non-virulent *C. diphtheriae* were isolated from 3 of these contacts.

The index case and the 6 positive contacts were given penicillin therapy over a 10-day period. Repeat cultures on 12 October showed that the patient and his 2 sibling contacts were still harboring virulent diphtheria organisms; by then all other contacts were negative.

Following a subsequent 7-day course of erythromycin, 2 consecutive swabs from each of the 2 siblings proved to be negative on culture. The index case had been fatally injured by a fall several days before the final cultures were obtained from the 2 siblings. Accordingly, a repeat culture was not obtained.

Of the total group of 51 persons involved, just over 50% gave a history of adequate immunization

against diphtheria. Among the 7 individuals who yielded positive cultures for *C. diphtheriae*, the immunization status is shown in Table 1.

On 2 and 3 October, all individuals in the family groups concerned received booster immunizations against diphtheria, tetanus and poliomyelitis; children under 6 years of age were also given pertussis vaccine.

PLAGUE MENINGITIS IN AN AMERICAN SERVICEMAN

*E. James Feeley MD and John J. Kriz MD,
JAMA 191(5): 412-413, Feb 1, 1965.*

Plague is an endemic disease in Southeast Asia and when large numbers of United States personnel entered the area, measures were taken to protect them from infection. These proved highly effective, but in the case recorded here bubonic plague masqueraded as venereal infection and remained unrecognized until the development of the rare complication of plague meningitis.

Report of a Case. A 23-year-old white male, serving with American military advisors in Viet Nam, was seen in a dispensary on 21 March 1963, with swelling in the left inguinal region, associated with fever, pain, and tenderness. The examining physician noted a questionable penile lesion and made a diagnosis of lymphogranuloma venereum. The patient was treated orally with tetracycline, but the inguinal swelling increased, accompanied by marked edema

TABLE I

Case	Age	Relationship	Immunization	Laboratory
Index	3 years	—	None	Virulent
2	4 years	Sibling	Primary series*	Virulent
3	11 months	Sibling	None	Virulent
4	28 years	Father	Primary series*	Virulent
5	34 years	Aunt	Primary series*	Non-virulent
6	4 years	Contact	Full	Non-virulent
7	26 years	Contact	Full	Non-virulent

* No booster followed these primary series.

and erythema. This was interpreted as cellulitis and 2.4 million units daily of procaine penicillin G was given intramuscularly with the tetracycline. On 23 March the patient developed frontal headache, but no meningeal signs were elicited, and the inguinal swelling had diminished somewhat. By the next day, nuchal rigidity had developed, and lumbar puncture revealed opening-closing pressures of 330/230 mm and turbid fluid with many polymorphonuclear cells; stained smears and cultures were negative. In view of the fact that the patient had recently returned from Nha Trang, a coastal town 200 miles north of Saigon and the site of recent plague cases, a portion of the spinal fluid was injected subcutaneously into a guinea pig in an attempt to isolate *Pasteurella pestis*. The patient was then administered streptomycin sulfate, 0.5 gm intramuscularly every 3 hours, and transferred to a military field hospital.

On admission to the second medical facility, the patient appeared acutely ill, complaining of headache and neck pain. Temperature was 104.2 F (40.1 C), pulse 100 beats per minute, respirations 16 per minute, and blood pressure 120/78 mm Hg. There was marked nuchal rigidity, a positive Kernig sign, and the right fundus showed moderate papilledema without hemorrhage. In the left inguinal region there was adenopathy associated with erythema and slight induration, and on the underside of the penis near the glans a small ulcerating lesion was seen. A white blood cell count was 13,000/cu mm with 65% neutrophils. Examination of the spinal fluid revealed 60 cells cu/mm, protein 112 mg%, glucose 20 mg%, chloride 117 mEq/liter, gram stain negative, and cultures negative. The initial clinical impression was bacterial meningitis, possibly meningococcal, and intravenous aqueous procaine penicillin G and sulfadiazine were given in addition to the intramuscular streptomycin sulfate. On the evening of admission he became hypotensive, with a blood pressure of 60/40 mm Hg and hydrocortisone was added to the treatment with intravenous fluids. The following morning he was clinically improved and his temperature had returned to 98.6 F (37 C).

On 2 April, the guinea pig which had been injected 8 days previously was found dead, and autopsy on the animal revealed typical gross findings of plague, including large buboes in the groin adjacent to the injection site, large friable spleen, and hemorrhagic consolidation of the lungs. Smears from the involved organs showed the typical short, plump, bipolar, gram-negative bacilli, and cultures produced slow-growing "ground glass" colonies, sensitive to chloramphenicol, streptomycin sulfate, and aureo-

mycin and resistant to penicillin and erythromycin. The organisms were agglutinated by antisera to *Pasteurella pestis* and were inhibited by specific bacteriophage. The culture was sent to Walter Reed Army Institute of Research for confirmation and the following additional information was obtained: The organism is a gram-negative rod sensitive to *Pasteurella pestis* phage; it reduced nitrate, but did not produce urease; it produced acid without gas in glucose, maltose, mannitol, and salicin, but did not ferment glycerol or rhamnose.

By the time the organism was discovered, the patient had become asymptomatic, but administration of streptomycin sulfate was continued, and after 3 weeks of hospitalization the patient was returned to duty in excellent health and with no residual effects from the disease.

Comment. Pollitzer in his monograph on plague¹ reviews the recorded reports of meningeal involvement in this disease and lists 29 cases from the world literature between the years of 1915 and 1951. In most instances meningitis complicated obvious bubonic plague. Some of the observers believed that their cases were examples of primary meningeal involvement, but Pollitzer doubts that a primary form of plague meningitis exists. The cases recorded here followed what was apparently a bubonic form of the disease, but the inguinal swelling was interpreted as lymphogranuloma venereum and no bacteriological study of the bubo was performed. Of interest in relation to this case are the observations of Landsborough and Tunnell,² suggesting increased incidence of secondary meningeal involvement following the introduction of sulfonamide and plague serum therapy. It is likely that in the case reported here the suboptimal treatment of bubonic plague with penicillin and tetracycline prolonged the course and permitted a few organisms, disseminated to the central nervous system and thus protected from high blood levels of antibiotics, to survive and multiply. Such a complication may be expected to occur more frequently in this era of widespread use of antibiotics.

A significant point to bear in mind in the diagnosis of plague meningitis is the importance of animal inoculations. The failure to identify the organism in smears and cultures from this patient's spinal fluid may be due in part to the previous antibiotics, but failure to culture the plague bacillus from spinal fluid is apparently not uncommon. Meyer,³ writing before the use of antibiotics, reports 3 out of 8 cases of plague meningitis with negative spinal fluid cultures.

Lastly, this case illustrates some of the practical problems in the control of unusual diseases in an

unfamiliar environment. A series of inoculations with killed plague vaccine was required of all United States personnel in Viet Nam, but subsequent investigation revealed that this individual, due probably to his frequent change in location, had not received his course of injections. When he presented with inguinal adenopathy, a previous history of venereal disease influenced the examining physician and a diagnosis of lymphogranuloma venereum was made. Subsequently, a history of repeated venereal contact was obtained, but the locale involved proved to be one of the most active foci of plague infection in the country. The presence of lymphogranuloma venereum was not conclusively ruled out, but the clinical course leaves little doubt that the disorder in question was bubonic plague.

References

1. Pollitzer, R. Plague, Geneva: World Health Organization, 427-431, 1954.
2. Landsborough, D., and Tunnell, N. Observation on Plague Meningitis, *Brit Med J* 1: 4-7, Jan 1947.
3. Meyer, K.F., et al. Chronic Relapsing Latent Meningeal Plague, *Arch Intern Med* 59: 967-980, June 1937.

IMPORTANCE OF SULFADIAZINE RESISTANCE IN MENINGOCOCCAL DISEASE IN CIVILIANS

J. M. Leedom, et al., The New England J of Med
273(26): 1395-1401, Dec 23, 1965.

Thirty-five of 106 (33%) strains of *Neisseria meningitidis* recovered from civilians with meningococcal disease at the Los Angeles County General Hospital between 1 May 1963 and 28 February 1965, had minimum inhibitory concentrations to sulfadiazine of 10 mg per 100 ml or more. Most belonged to serologic Group B, and the distribution of minimum inhibitory concentrations to sulfadiazine clearly delineated 2 biologic populations of meningococci. The proportion of resistant strains was unexpectedly higher among girls and women 10 years of age and older than among younger girls or males.

These data clearly indicate the abandonment of sulfonamides as primary therapy in meningococcal disease. Penicillin G or ampicillin is recommended by the authors as the agent of choice. With the superannuation of sulfadiazine, new approaches to the prophylaxis of infection among military recruits and household associates of civilian patients must be evaluated.

TUBERCULOSIS IN THE UNITED STATES

USDHEW PHS CDC Morb & Mort Wkly Rpt
14(46): 395, 400, Nov 20, 1965.

Tuberculosis is a nationally reportable disease and individual case reports are made to the relevant tuberculosis authority at the State level; data are compiled by the States for an annual statistical report to the Tuberculosis Branch of the Communicable Disease Center, Public Health Service, Atlanta, Georgia.

The Tuberculosis Branch publishes an annual statistical review entitled, "Reported Tuberculosis Data," which gives the totals of new cases of active tuberculosis, tuberculosis deaths, and estimates number of tuberculosis cases under medical care or public health supervision in the United States.

Each State is responsible for its own tuberculosis control program and all States maintain such programs. Federal assistance is given through formula grants to all States on a *pro rata* allocation of annually appropriated funds and through Tuberculosis Project Grants. The Projects Grants are made to States which request such aid and are administered by the Tuberculosis Branch of the Communicable Disease Center.

During 1964, the Health Departments of the United States reported 50,874 new active cases of tuberculosis (26.6 per 100,000 population). In 1963, the rate was 28.7 per 100,000 population.

On 1 January 1965, it was estimated that 320,000 persons were enrolled on Departments of Health tuberculosis registers in the United States. Of this total, 105,000 individuals were receiving treatment for active tuberculosis, of whom some 42,000 were in hospitals and sanatoria, and approximately 63,000 were under the medical care of clinics and private physicians. The remaining 215,000 cases included persons under supervision for inactive disease, and cases for which disease activity had not yet been determined. At beginning of 1965, selected areas that were receiving special Tuberculosis Project Grants from the Public Health Service included 94,603 of the total cases on their registers, including 23,007 active cases of which 11,394 were in hospitals. By 30 June 1965, there was an expansion of existing Projects and initiation of new ones resulting in a provisional total of 114,142 cases reported of which 27,811 had active disease; of the latter, 13,226 were under hospital care.

Tuberculosis Chemoprophylaxis Program at Menominee County, Wisconsin was established on

1 April 1965 by the Wisconsin State Board of Health having received a Public Health Service Tuberculosis Project Grant. The Project is in 2 phases. Phase I is to tuberculin test a population of 2,700 persons, to X-ray all positive reactors, and to establish a definitive diagnosis, followed by the treatment of confirmed cases of active tuberculosis. Phase II, a course of INH chemoprophylaxis over a period of 12 months will be given to all positive reactors, their associates, and to contacts of known cases who do not require a full regimen of chemotherapy.

The first phase was begun on 17 May 1965. By November 1965, 2,400 persons had been tuberculin tested with 500 positive reactions of 10 mm or more of induration. Those with positive reactions, 414 have been X-rayed and 106 showed changes indicative of latent or arrested tuberculosis because of calcification, fibrosis or pleural abnormalities. No case of active tuberculosis was found in this group, but 1 patient had lung cancer. Phase I continues.

Phase II was begun on 31 August 1965, with 22 individuals being started on a regimen of INH prophylaxis. By November 5, 1965, the total number was 428. This second phase will continue for each individual throughout a full year.

FARMER'S LUNG

*D. A. Emanuel, et al., Marshfield, Wisconsin,
Am Jour Med 37: 392-401, Sept 1964.*

Farmer's lung is a disabling occupational disorder occurring frequently among agricultural workers. It is a disease produced by inhalation of "dust" from moldy forage. This entity was first described in the medical literature in 1932 and has since been reported from the United States, British Isles, Switzerland, France, Germany, and Scandinavia.

Clinically, farmer's lung has been divided into three phases: (1) the acute isolated attack; (2) the subacute stage with a spontaneous tendency to recover when the patient is removed from his environment; and (3) the chronic or irreversible phase with secondary lung changes, such as emphysema and fibrosis. The disease is rarely fatal in its early stages but can be so in the late phase due to pulmonary insufficiency and cor pulmonale.

The disease has a definite seasonal variation, occurring most frequently from October to May. This is a period during which farmers use stored hay, grain, and silage which they have prepared the previous summer. Appearance of symptoms of the disease frequently follow a wet summer season in

which the farmer had great difficulty in "making hay" or harvesting grain.

The patients usually are seen after having been ill for several months with chronic cough, fever, weight loss, shortness of breath and sputum production. It should be emphasized that farmers themselves are usually not aware of the relationship between their respiratory difficulty and contact with moldy hay but on careful questioning, it can be ascertained that exposure to moldy forage was followed within a few hours by clinical symptoms.

Pathologically, farmer's lung is generally considered an interstitial pneumonitis with granuloma formations. A recent study indicates a much greater variety of histopathologic changes than previously described. This includes interstitial pneumonitis without granuloma formation, organizing endobronchial exudates and the finding of foreign material in many biopsy specimens. This doubly refractile foreign body material may be of etiologic importance.

Circulating antibodies can be demonstrated by the agar gel diffusion technique in patients with recent and active disease. This procedure may afford a simple diagnostic test for the confirmation of farmer's lung.

Corticosteroids produce a striking clinical response but the authors of the present study state they are always reluctant to start steroid therapy because the relief of the patient's symptoms produces a false sense of security; the patient believes that he is well although there may be a continuation of the disease. Indeed, progressive pulmonary fibrosis and emphysema can develop with repeated exposure and was the cause of death in four of 24 patients in a current study. The only known cure is removal of the patient from his environment.

Prevention of the disease is difficult. Where any forage material is stored, there is always a chance for bacteria and molds to develop. Artificial methods for drying hay and grain are being increasingly utilized and may lessen the risk.

EYE PENCIL BLAMED FOR TRACHOMA OUTBREAK

*Mass Dept Pub Hlth Bull 14(47): 461-462,
Nov 22, 1965.*

A borrowed eyeliner pencil has been tracked down as the carrier responsible for 2 outbreaks of trachoma in United States high schools. Eighty cases of the eye disease, blinding if untreated, developed in a San Jose, California, school and 30 more at a Carson City, Nevada, school. In each location the disease

originated with one girl, who loaned her eyebrow pencil to others. The infection was carried on the tip of the pencil, which was applied on the eyelids near the lashes. Thus the infecting agent was deposited in a prime place for the disease to develop.

The cases were reported by the Director of the Francis I. Proctor Foundation of the University of California Medical Center. The foundation is the World Health Organization reference center for trachoma.

Trachoma is the greatest single cause of loss of sight in 500 million people, primarily in underdeveloped areas where spread of the disease is linked to poor hygiene, flies and inadequate water. In the United States, its prevalence is almost completely among Indians living along the desert of the southwestern states, where whole families may wash from a common basin of water. In San Jose, the disease began with a girl whose family had relatives from Mexico visiting, the relatives carrying the disease to her. In Carson City an Indian girl brought the disease to the school.

No permanent eye damage resulted in any of the high school cases but the eye-pencil transmission of the disease will be an increasing problem. The director of the Foundation strongly rules out any broad scale spreading of the disease but stresses that even sporadic cases pose a problem in this country because few doctors are familiar with the disease.

Trachoma can be cured either by sulfa drugs or by antibiotics. If untreated, however, inflammation distorts the lids, turning the lashes inward. In time the disease abrades the surface of the lens, causing scarring and blindness. Secondary infections then become great hazards. World Health programs to prevent blindness from trachoma have so far been more effective in fighting the secondary infection than in reducing the incidence of the disease itself.

YELLOW FEVER IN SENEGAL, WEST AFRICA

USDHEW PHS CDC Morb & Mort Wkly Rpt 14(48): 411, Dec 4, 1965 and WHO Wkly Epid Record 40(46): 571, Nov 19, 1965.

An outbreak of yellow fever in Senegal has been reported from Diourbel, 100 km due east of Dakar. The first case was confirmed by histology on 12 November 1965 and since then there have been 23 fatal cases of confirmed yellow fever reported to the WHO.

Ages of the first 11 fatal cases histologically confirmed have ranged from 1 year to 26 years, 9 of whom were 10 years of age or younger. In the area of the outbreak, children under 10 years appear to be most susceptible.

Previous yellow fever vaccination campaigns have resulted in an immunity level around 70% of the population over 20 years of age. These campaigns were carried out using the Dakar vaccine and did not include children under 10 years of age.

A mass vaccination campaign was started on 16 November using the Dakar vaccine for persons 10 years and over and the Rockefeller 17D vaccine for children under 10 years of age.

An epidemiological investigation is being carried out to determine the vector.

This is the first time yellow fever has been reported in Senegal since 1 November 1953 and is the first reported since December 1964 in Africa as a whole, when 6 cases occurred in Portuguese Guinea.

PROPOSALS AIMED AT REDUCING SALMONELLOSIS

This Week in Pub Hlth, Mass Dept of Pub Hlth 14(48): 475.

Two recent proposals by the Federal Commissioner of Food and Drugs are aimed at reducing the incidence of Salmonellosis. One proposal would amend the definitions and standards of identity for liquid, frozen, and dried eggs and liquid, frozen, and dried egg yolks to require these articles of food to be pasteurized or otherwise treated so as to destroy all viable *Salmonella* microorganisms. The second proposal is similar but would apply to liquid, frozen, and dried egg whites. Both proposals would permit the use of safe and suitable substances (other than chemical preservatives) that are essential to a method of pasteurization or other treatment to destroy *Salmonella* by requiring such substances to be listed on the label.

Investigations by local, State, and Federal authorities have shown that frozen and dried egg products are frequently implicated in outbreaks of Salmonellosis. It has also been shown that surface contamination or occasional internal infection of shell eggs with *Salmonella* may contaminate the liquid egg products during commercial production and thus contaminate processed eggs and egg products. This is the cycle which the proposals seek to break.

KNOW YOUR WORLD

DID YOU KNOW?

That in 1964, a total of 3,587 cases of encephalitis, including 337 deaths, occurred in the United States?

There were also 582 cases of arthropod-borne encephalitis. (1)

That there are about 52 different species of sea snakes, 40 of which are found in the Pacific area?

Venoms from these snakes exceed that of the cobra in toxicity. Most victims are fishermen. It was found that the neurotoxic venom is very stable. No known drug can save the life of a patient bitten by a sea snake. (2)

That an agreement was signed by West Germany and the Republic of Togo for the construction of a \$960,000 health institute?

Germany agreed to staff the institute for 4 years and to train local personnel for the future. (3)

That longevity factors were studied in 5,000 Romanians over 85 years of age?

Centenarians were found especially among shepherds and fishermen. The majority of the long-lived persons had the same occupation for over 60 years; 40% for less than 40 years. Living at an elevation of 1,300 to 2,300 feet and a lactovegetarian diet seem to favor longevity. (4)

That cheese is a product which depends for its quality upon the impurity of the surroundings?

Cheese made from milk taken aseptically direct from the cow had virtually no flavor, while similar cheese made under ordinary conditions from the same cow was normal in all regards. The difference was only a little less after aging for 3 months. (5)

That smallpox, which had not been notified from Burundi since August 1963 (4 cases), has again been reported?

In Kitega Province, 3 cases were notified up to 8 Oct 1965; no deaths. In Ngozi Province, bordering Rwanda, 332 cases (no deaths) occurred up to

24 September and 1 case during week ended 8 Oct 1965. These cases have been reported, after observation, as being *variola minor*. (6)

That oysters and clams quickly rid themselves of polio virus and bacteria when transplanted from polluted water into clean water?

Scientists at the Gulf Coast Shellfish Research Center at Daughin Island, Alabama, suggest that the shellfish may be purified before marketing much as milk is made safer by pasteurization. The demonstration of the concentration of virus particles by oysters exposed to sea water of low virus content reinforces the concept that the oyster can serve as a potential vector of virus infection and has the ability to rapidly reduce its load of polio virus particles under proper conditions. Similar results with the Northern hard clams, the quahaug, have recently been obtained at the Northeast Research Center at Narragansett, Rhode Island. (7)

That beatlemania has created a serious medical problem in the Netherlands?

A group called The Drumbands is believed to have infected hundreds, if not thousands, of their fans with tuberculosis. Two of the musicians are suffering from acute TB and have triggered a small TB epidemic. Already 20 boys and girls who listened to The Drumbands in basement cafes and small rooms are under treatment in TB sanatoriums, another 20 are being treated at home, and many others who reacted positively to TB tests are receiving isoniazid prophylactically. Health authorities have asked all Drumbands fans to submit to X-rays and in eastern Holland, where the group has appeared frequently, tuberculosis tests have been ordered in all schools and factories. (8)

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4. JAMA 194(6): 221, Nov 8, 1965.
5. ONR London, European Scientific Notes, Sept 14, 1965.
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8. Med World News 6(46): 34, Dec 10, 1965.

EDITORIAL DESK

SEALAB II

SEALAB II, the longest and most ambitious deep-diving experiment ever conducted, came to an end on October 12, 1965. On that day, the final 10-man team of a three-team relay system of divers—28 men in all—emerged from a decompression chamber off the coast of southern California. The divers, representing both Navy and civilian scientific interests, had lived for a total of 45 days inside and outside of a 57-foot-long chamber that had been placed on the ocean bottom at a depth of 205 feet. The experiment was conducted and directed by the Office of Naval Research in collaboration with the Special Projects Office, as part of the Navy's Man-in-the-Sea program.

This undertaking and its predecessor—SEALAB I, which was conducted last summer in the Atlantic Ocean near Bermuda—were made possible by the conception, about 10 years ago, of the so-called "saturation dive." According to this technique, a diver is supplied with breathing gas at a pressure equal to that of the surrounding ocean water, which causes his body tissues to become completely saturated with the gas after approximately 24 hours. As long as the diver remains at a pressure level no lower than the saturation pressure level, he does not experience ill effects. Before returning to surface pressure, however, he must undergo gradual decompression—over a period of 31 hours in the case of the SEALAB II divers—in order to accommodate the naturally slow escape of the high-pressure gas from his tissues.

Conceivably, by means of the saturation dive and the new equipment that is being developed to facilitate it, man will be able to remain deep beneath the ocean surface indefinitely and accomplish a variety of tasks that would be difficult or impossible to accomplish by repeated dives from the surface. SEALAB II was undertaken to determine the feasibility of this concept. During the project, scientists representing many fields monitored the performance of the divers and their supporting equipment accumulating much information that is needed to plan undersea-living projects of the future.

Following is a chronology of the major activities of the SEALAB II Aquanauts:

On August 28, 1965, the first team of SEALAB II entered the habitat. Commander M. Scott Carpenter, USN; Wilbur Eaton, GM1; Cyril Tuckfield,

ENC; LT Robert Sonnenburg, MC, USN; Billie Coffman, TM1; J. D. Skidmore, PHC and Fred Johler, ENCS, made up the Navy members of the team. Civilians were engineer Berry Cannon of the Navy Mine Defense Laboratory and Earl Murray and Tom Clark from the Scripps Institution of Oceanography, La Jolla, California.

The first team's main task was to get the habitat operating properly, establish an area of exploration, map the area they were located in, and to perform human factors and physiological experiments as well as marine biology studies. An underwater weather station was set up to measure current velocities, water temperatures and other parameters at varying depths.

More tasks were scheduled for each team than they could possibly accomplish. This was to take care of any slack time which would result if an experiment were aborted. Aquanauts soon learned that it took a tremendous amount of work just to live at 205 feet.

In spite of a busy housekeeping schedule, checking equipment that was used for the first time in many cases, the first team on one day reached a total of 732 minutes in the water. All in all, they logged 6,067 minutes of time in the ocean and countless hours doing experiments inside the undersea habitat.

On Sunday, September 12, the first team (with the exception of CDR Carpenter) returned to the surface, undergoing 31 hours of decompression.

The second team was composed of CDR Carpenter, Robert Barth, QMC; Howard Buckner, SWC; Kenneth Conda, TM1; Glen Iley, HMC (who would serve as medical representative) and John Reaves, PH1, for the Navy. Civilian scientist/divers were George B. Dowling, research physicist and William Tolbert, Jr., oceanographer and Wally Jenkins, equipment specialist, all from the Navy Mine Defense Laboratory, Panama City, Florida, and Arthur Flechsig, oceanographer from the Scripps Institution of Oceanography.

The second team was dubbed the "scientific team" by the SEALAB officials. This was due to the high number of physiological and marine biological studies that were carried on inside and outside of the habitat.

A major achievement of the second team was

completion of excursion dives to a depth of 266 feet at the sheer brink of Scripps Canyon. CDR Carpenter and Wally Jenkins made the first dive, with the entire second team later completing the excursion.

The second team had great success with Tuffy the porpoise, who worked for three days with the Aquanauts. The mammal proved to be an expert mailman and also carried a line to an Aquanaut who called him as if the diver were lost. This demonstrated that the porpoise can be a valuable assistant to men working in an undersea environment. Tuffy finished with his chores, and was returned by helicopter to his home, the Naval Missile Center at Point Mugu, California.

The second team logged 5,850 minutes in the water, but a major portion of their time was scheduled inside the undersea habitat performing special physiological and marine biological experiments. They entered the personnel transfer capsule on Sunday morning, September 27, and underwent 35 hours of decompression.

The third team entered SEALAB II in two shifts. Team leader Robert Sheats, Master Chief Torpedoman and Master Navy Diver, with Bill Meeks, BM1 and Navy Electronics Laboratory scientist/diver Bill Bunton entered SEALAB on September 26. This was to enable the third team to become familiar with the routine and Chief Sheats with his leadership duties. The remaining seven men entered the habitat on Sunday morning. Navy members were LT Robert Sonnenburg, Medical Corps, USN, Charles Coggeshall, GMC; John Lyons, EN1; Lavern Meisky, SFC, and Paul Wells, MNC. The civilians were scientist/divers Rick Grigg and John Morgan Wells, both of Scripps.

Primary objective for the third team was to test new salvage procedures at a greater depth. They used a special foam to salvage an aircraft hulk and to raise barrels from the bottom. They used explosive tools in an important experiment designed to attach plates and lifting surfaces to a portion of a submarine hull. They also worked with specially designed tools, with torque-free characteristics, to test the tools' effectiveness. Two different kinds of sample mining, air-lift and bottom coring, were also tested by the Aquanauts.

The third team had two immediate problems, both of which were solved by Aquanauts and topside personnel working together. The first problem was headaches suffered by most of the third team, and which coincided with the discovery of significant traces of carbon monoxide in the SEALAB at-

mosphere. A chemical, hopcalite, was added to the air scrubbing system, and seemed to help. At least the headaches became fewer.

The second problem was one which all three teams faced. They had to send their air bottles topside for recharging with helium and oxygen, and this consumed valuable bottom time. A special high-pressure line was sent to SEALAB II and the third team was able to charge their own bottles inside the habitat.

Chief Bob Sheats and NEL diver-photographer Bill Bunton received permission from CAPT George F. Bond, senior medical officer, and Dr. John Craven of the Navy Special Projects Office, to make a 300-foot dive into Scripps Canyon. They completed the dive satisfactorily, and the remainder of team three also made dives to the 300-foot level. The last team also had the major job of preparing for ending the project. They prepared the habitat for raising from the ocean floor. This involved undoing many of the things the first team had done. All of the scientific gear had to be disassembled and returned to the surface, the Benthic communication laboratory had to be unhooked, and a general tidying up of the area made so that cables and wires would not foul during the raising operation. In all, the total ocean bottom working time accomplished by team three was 8,678 minutes.

Members of the third team came to the surface in the personnel transfer capsule on Sunday morning, October 10. They underwent about 31 hours of decompression and emerged from the decompression chamber late Monday afternoon, October 11.

For the first time, numerical data on human performance in accomplishing work in cold, dark water were obtained. For example, tests were given to measure the force that divers can exert on a wrench and to assess such factors as two-hand coordination, manipulative skill, tactile sensitivity, speech intelligibility, arithmetical ability, and visual and auditory acuity. Knowledge of these capacities is essential to the design of tools and equipment required for undersea operations of the future and in establishing the performance limits of diver activities.

An intensive study of diver physiology was carried out, by means of which a large amount of data was gathered on all of man's vital functions. At intervals, while the divers worked inside of their habitat and before, after, or during the periods they worked outside, electrocardiograms were taken and measurements were made of such conditions as blood pressure, body temperature, pulse, and respi-

ration. This information will be related to the performance and behavior of the divers as determined by other tests in order to delineate an appropriate framework of activity for divers of the future.

By means of written questionnaires and TV monitoring, close attention was paid to diver behavior. Contrary to some opinions held previously, the observations revealed that small groups of highly motivated men can live together in the ocean depths under hazardous conditions for long periods of time without friction occurring between them.

One of the primary interests of the navy in adapting man, techniques, and equipment to the performance of tasks underwater is the salvage of ships, aircraft, and other objects from the ocean floor. During SEALAB II, a special foam was used to salvage an aircraft hulk and explosive tools were used to attach plates and lifting surfaces to a portion of a submarine hull. The success of these and other experiments indicates that man is capable of performing difficult salvage tasks while living in the underwater environment.

All of the members of two of the SEALAB teams made short-period excursions to depths as great as 300 feet. These dives demonstrate that man working out of a habitat can make brief deep dives to significantly greater depths than that of their habitat without undergoing decompression as they return.

Scientific and commercial explorations of the continental shelves of the world will be important objectives of many of the saturation dives to be made in the years ahead. During SEALAB II, investigations were carried out which demonstrated the feasibility of such projects. Experiments conducted by scientist-divers included physiological monitoring of marine organisms in their natural environment, observations of sediment transport and currents, and scale model undersea mining.

Porpoises are noted for their ability to locate targets in dark waters by means of a natural sonar system. In order to determine the qualifications of this animal for membership in a team of Aquanauts, a trained porpoise was sent below to join the SEALAB II divers. The porpoise responded instantly and unerringly to acoustic signals given by divers stationed at locations beyond his range of sight. On some occasions, he was given messages to deliver, and on others, life lines to carry to divers "in distress." The animal passed the tests with high marks and thus may have earned a place beside man in the exploration and exploitation of the undersea world.

In a congratulatory message sent to the SEALAB II Aquanauts at the end of the experiment, Secretary

of the Navy, Paul H. Nitze, stated the following:

"Thanks to the teamwork and dedicated efforts of the scientific community, Aquanauts, and support personnel, SEALAB II has accomplished its mission. You have proved that man can live and do useful work under the sea. Your accomplishments during the past 45 days have set one of the cornerstones for our future exploitation of the continental shelf."—Official Navy News Release.

CAPT KAESSE CONDUCTS MEETING IN CHICAGO, ILLINOIS

CAPT Karl V. Kaess MC USN, Executive Officer and Chief of Dermatology at the Naval Hospital, Newport, Rhode Island, recently conducted the annual meeting of the Society of Military Dermatologists, of which he is president. The meeting was held on 5 December 1965 during the annual convention of the American Academy of Dermatology in the Palmer House, in Chicago, Ill. The principal speaker was Dr. Maurice Tolman, professor of Dermatology at Harvard Medical School, Boston, Massachusetts, who spoke on "The Scratch Mark (Fiction, Philosophy, Fact)."

CAPT Kaess has been nominated for duty as Commanding Officer of the U.S. Naval Hospital, Portsmouth, New Hampshire, and Shipyard Medical Officer, Portsmouth Naval Shipyard.

CHANGE OF COMMAND

CAPT Tracy D. Cuttle MC USN, assumed command of the U.S. Naval Hospital, Chelsea, Massachusetts on 15 January 1966. Since the retirement of CAPT Lewis L. Haynes, former Commanding Officer on 30 November 1965, CAPT Harold A. Streit MC USN, Executive Officer, has served as the Commanding Officer.

AVAILABILITY OF RESIDENCY TRAINING IN PULMONARY DISEASES AT U.S. NAVAL HOSPITALS, ST. ALBANS AND SAN DIEGO BEGINNING IN JULY 1966

It is the intention of the Bureau to apprise interested medical officers of the availability of a limited number of vacancies in residency training in Pulmonary Diseases at the above hospitals.

The training program is oriented to familiarize the resident with all phases of chest disease. Specialized training in respiratory physiological testing procedures will be given in the cardiopulmonary laboratory as well as practical instruction in specialized

diagnostic procedures related to chest disease, such as bronchoscopy and bronchography. Through close liaison with the Thoracic Surgery teaching program, the resident is given ample opportunity to correlate clinical disease with operative findings. The training period will qualify the resident for basic requirements for the Subspecialty of Pulmonary Diseases of the American Board of Internal Medicine.

Eligibility: Fully trained internists, preferably those who have passed Part I of the American Board of Internal Medicine Examination.

Interested medical officers are invited to submit applications immediately and prior to 15 February 1966, via chain of command as outlined in BUMED INSTRUCTION 1520.10C. Candidates will be notified of selection or nonselection as soon as possible.—Training Branch, BuMed.

AMERICAN BOARD CERTIFICATIONS

American Board of Dermatology

LCDR Kenneth A. Gill, Jr. MC USN
LCDR Bennett L. Johnson, Jr. MC USN
LCDR Ralph G. Sablan MC USN

American Board of Internal Medicine

CDR Willis S. Myers MC USN

American Board of OB-GYN

LCDR Stephen Barchet MC USN
LCDR Luman H. Hughes, Jr. MC USN

American Board of Pathology

LCDR Robert A. Burke MC USN
LCDR Eugene D. Rutland MC USN
LCDR Don B. Vollman, Jr. MC USN

American Board of Pediatrics

CDR David O. Childers MC USNR

American Board of Plastic Surgery

CDR Walter J. Meekings, Jr. MC USN

American Board of Surgery

CDR Harry H. Dinsmore MC USN
LCDR Robert L. Brisbin MC USN
LCDR Alan C. Stormo MC USN

American Board of Thoracic Surgery

LCDR Mitchell Mills MC USN

American Board of Urology

LCDR Wesley W. Boucher MC USN

MANUAL OF GYNECOLOGICAL EXFOLIATIVE CYTOLOGY

This much needed manual, prepared at the U.S. Naval Medical School, National Naval Medical Center, Bethesda, Maryland is now available—The Preface by CAPT J. H. Stover, Jr., Commanding Officer of the U.S. Naval Medical School States:

“Cytology and cytopathology have become important tools of the diagnostic armamentarium. Because of their importance the number of cytologic tests is increasing beyond the temporal capabilities of most laboratories. Additional trained personnel are required to provide this service. In response to this need, training in exfoliative cytology is now included in the curriculum of the course for laboratory technicians at the U.S. Naval Medical School.

This manual is not intended as a substitute for the excellent atlases and texts in the field but rather as a supplement for a specialized course in exfoliative cytology. It was developed to serve as an introductory text and work book for the didactic phase of the program which is followed by a period of approximately seven months of supervised screening of actual slides.

In military laboratories, the predominance of

cytology requests arise in examination of the female genitalia. Consequently, the subject matter of the course and of this associated manual is limited primarily to the consideration of gynecologic material.”

The first four chapters deal with cell structure and variation, the tissues and their characteristics, and the anatomy and physiology of the female genital tract.

Chapter five describes the normal exfoliative cytology of the female genital tract. All are very well illustrated in black and white and in color. A chapter on technical procedures in exfoliative cytology follows. Chapter seven describes and illustrates atypias and artifacts in vaginal/cervical smears and chapters eight and nine tumors and their cells and carcinomas of the female genital tract. Eight exceptionally well done color plates (artist's drawings) accompanied by guide diagrams follow—Pastel shades have been used in these plates which reproduce the shades produced by the Papanicolaou staining procedures and greatly enhance the value of these plates for teaching purposes.

Thirty-seven pages devoted to laboratory exercises and laboratory work sheets, and an appendix which includes procedures for additional techniques in exfoliative cytology, listings of standard items of supply and nonstandard items of supply, a glossary and a short list of references complete this well planned and well executed manual.

Failure to include illustrations of cell changes following therapeutic radiation does not detract significantly from the general excellence and teaching potential of this publication. Such changes are well described in the section on malignant tumors.

The same is true of malignant endometrial cells.

This manual fulfills its purpose which CAPT Stover stated in the Preface exceptionally well. As one who struggled with the problem of examining the ever increasing number of Papanicolaou preparations over the past several years and with the training of occasional general laboratory technicians who could qualify for such training, I wish it had been published 15 years ago.

It can be purchased from the Superintendent of Documents, Washington, D.C. 20402 for \$1.75.
—Editor.

REQUEST FOR PUBLICATION

The Naval Dental School needs a few copies of Irving Glickman's Clinical Periodontology, second edition, May 1958. If anyone has a copy of this edition that he would donate to the School, please forward it to Commanding Officer, U.S. Naval Dental School, National Naval Medical Center, Bethesda, Maryland 20014.

ACKNOWLEDGMENT

Following the publication of the article entitled "Navy Nurse Awarded Federal Nursing Service Award," information received by the Editor revealed that LCDR Norma Rita Coyle holds a Ph.D. Degree in Education. This information was not included in the article published in the U.S. Navy Medical News Letter 46(12): 25, dated 17 December 1965 which will explain the title of Doctor used in the article.

PRINCIPLES OF HOSPITAL CONSTRUCTION DISCUSSED AT U.S. NAVAL MEDICAL SCHOOL

On 16 November 1965, Representatives of the Federal German Republic visited the U.S. Naval Medical School, National Naval Medical Center,

Bethesda, Maryland, for the purpose of discussing parameters for blast and fallout protection for the construction of new hospitals.



Left to Right:

CAPT John H. Stover, Jr. MC USN, Commanding Officer, U.S. Naval Medical School, National Naval Medical Center, Bethesda, Maryland 20014.

Mr. Wilhelm Wenniges, Interpreter, Administrative Office to the German Military Representative to MC/NATO, Washington, D. C.

CAPT Gordon C. Bell MC USN, Head, NBC Training Branch, Nuclear Medicine Training Division, U.S. Naval Medical School, National Naval Medical Center, Bethesda, Maryland 20014.

PROF Dr. Heinrich Burkle de la Camp, Chief Surgical Consultant to the Surgeon General of the German Armed Forces.

BGEN Professor Dr. Georg Finger, Medical Corps, Federal German Army, Deputy Surgeon General of the Armed Forces, Ministry of Defense.

DR Heinrich Kaumann, Assistant Minister of Defense for Real Estate and Construction, Ministry of Defense, Federal German Republic.

LCOL Harald Hippke, Medical Corps, Federal German Army, Chief Hospital and Medical Services Branch, Armed Forces Medical Department, Ministry of Defense.

Mr. Alfred Schwalke, Chief Hospital Construction Branch, Real Estate and Construction Department, Ministry of Defense.

CAPT G. M. Davis, Jr. MC USN, Commanding Officer, U.S. Naval Hospital, National Naval Medical Center, Bethesda, Maryland 20014.

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